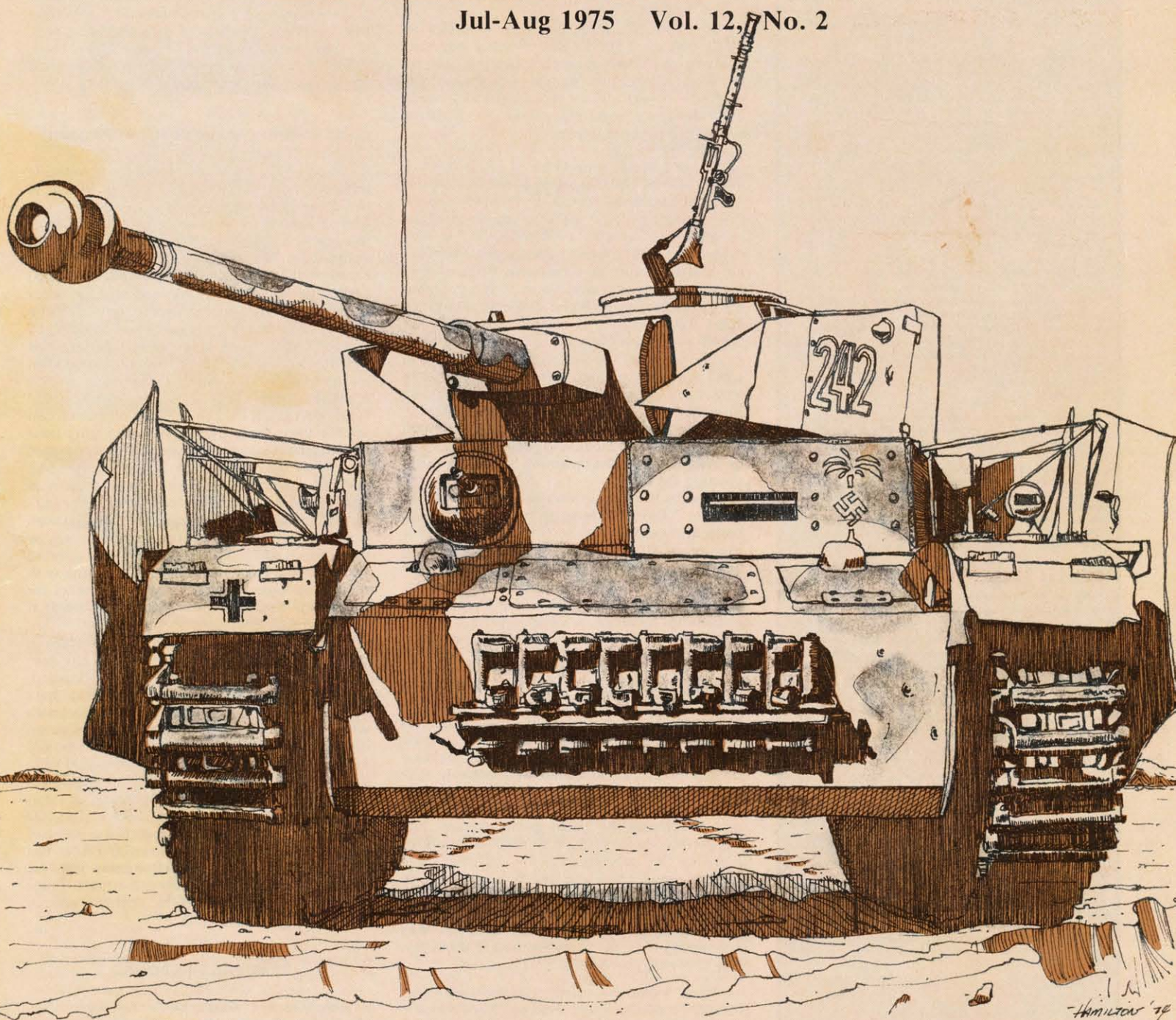




The AVALON HILL
GENERAL

Jul-Aug 1975 Vol. 12, No. 2



TOBRUK

Tank Battles in North Africa: 1942

★ The AVALON HILL GENERAL The Game Players Magazine

The Avalon Hill GENERAL is dedicated to the presentation of authoritative articles on the strategy, tactics, and variation of Avalon Hill games of strategy. Historical articles are included only inasmuch as they provide useful background information on current Avalon Hill titles. THE GENERAL is published by the Avalon Hill Company solely for the cultural edification of the serious game aficionado, in the hopes of improving the game owner's proficiency of play and providing services not otherwise available to the Avalon Hill game buff.

Publication is bi-monthly with mailings made close to the end of February, April, June, August, October, and December. All editorial and general mail should be sent to the Avalon Hill Game Company, 4517 Harford Rd., Baltimore, MD 21214. One year subscriptions are \$7.50. Trial subscriptions of 4 issues for \$5.00 are available. A two year subscription is only \$12.00. Send checks or money orders only. Not responsible for cash lost in transit. All subscriptions sent via bulk permit. Airmail and 1st class delivery must be prearranged with the subscription department at additional cost. Address changes must be submitted to the subscription department 6 weeks in advance to guarantee delivery. No paid advertising of any type is accepted. However, news of importance to the wargaming community is printed free of charge and is solicited.

Articles from subscribers are considered for publication at the discretion of our editorial staff. Articles should be typewritten, double-spaced, and embrace the tenets of good English usage. There is no limit to word length. Accompanying examples and diagrams should be neatly done in black or red ink. Photographs should have caption and credit line written on back. Rejected articles will be returned whenever possible. In any and all cases, Avalon Hill accepts no responsibility for unsolicited material. Authors of published articles which receive favorable response from the readership will be remunerated with free merchandise of their choice.

EDITOR: Donald J. Greenwood

GRAPHICS: Jim Hamilton, Randall Reed, Scott Moores, Elaine Adkins, Bob Haynes Cover By Jim Hamilton

EDITORIAL STAFF: J. Angiolillo, H. Anton, R. Beyma, J. Davis, O. DeWitt, S. Duncan, R. Easton, G. Gygax, J. Hamilton, R. Harmon, T. Hazlett, B. Libby, R. Livermore, L. McAneny, M. McGuire, D. Miller, T. Oleson, G. Phillips, L. Pinsky, R. Plock, D. Roberts, J. Robinson, M. Saha, B. Sinigaglia, H. Totten, L. Zocchi.

CONSULTING EDITOR: Thomas N. Shaw

CARTOONISTS: T. Smiley, S. Herchak

To facilitate correspondence, we suggest that all envelopes to Avalon Hill be marked in the lower left-hand corner as follows:

Purchases of the GENERAL: Subscription Dept. — Gertrude Zombr

Purchases of Games, play-by-mail kits, and game parts: Order Dept. — Christy Shaw

Questions Concerning Play: Research & Design Department. Note: all questions should be thoroughly diagrammed. No questions will be answered that are not accompanied by a stamped, self-addressed envelope. Only questions regarding rule clarifications (not historical or design subjects) can be answered.

Articles for Publication, Letters to the Editor, Requests for Brochures, and Readers Response Page submissions: Editorial Dept. — Donald Greenwood.

Photograph Credits: Photo File, Avalon, California

Typesetting: Colonial Composition

Printing: Monarch Office Services, Inc.

ENGLISH AGENT: Michael Hodge, 646 High Road, N. Finchley, London, Great Britain.

Australian Agent: Jedko Games, 111 Beatrice St., Cheltenham 3192 Victoria.

Scandinavian Agent: P.O. Box 329, 13103 Nacka 3, Sweden.

Copyright 1975

**The
AVALON HILL
Game Company**

4517 Harford Road,
Baltimore, Md. 21214



Avalon Hill Philosophy Part 50

The TOBRUK System

When *PANZERBLITZ* was released in 1970, everyone agreed that it was a different kind of game! It took quite a bit of getting used to. Once gamers became familiar with the system, however, it was quickly recognized as a landmark design. It is quite possible that *TOBRUK* will have the same impact.

TOBRUK is a different type of game. It is the most "tactical" land-warfare game Avalon Hill has ever published. Yet, it is very dissimilar to the man-to-man type games produced by other publishers. It is NOT a *PANZERBLITZ*-in-the-desert. It is a completely new system. The rules are constructed in an innovative 'Programmed Instruction' method which means that the rules are presented in discrete, self-contained modules. Each module is related to one of nine scenarios. Players are instructed to read each module and play the accompanying scenario in strict consecutive order. In this way, players can absorb and become familiar with many complex rules without being overwhelmed by the totality of the entire rules package. Since players need only read the first module to begin play, they can be involved in the first scenario 30 minutes after opening the box.

Besides being an innovative game on its own merits, *TOBRUK* attempts to bridge the gap between boardgamers and miniaturists. This is not unusual since the first prototypes of *TOBRUK* were essentially miniatures rule books. The resemblance to miniatures will not be lost on those gamers familiar with both types of gaming.

Why is *TOBRUK* a new design system? Because the whole design approach is radically different from other games. This approach is essentially the same Operation Research and Statistical Analysis (ORSA) techniques as used by the Department of Defense and private defense contractors (Rand, et al). What makes it unique is that it is applied retroactively to a specific historic event. This is not so coincidental, since Hal Hock, the man who did the research and developed the basic game system, just happens to make his living doing ORSA work for a private firm contracted to the DoD. Hal spent literally years gathering the data and creating the specific computer tools needed to synthesize the game's combat evaluation system. He approached this game design as if he was submitting it to the Army instead of to Avalon Hill. It is that precise and that accurate.

Right from the start, players will find *TOBRUK* a different sort of game. There is much less terrain than usual—in fact, there isn't any! Players create their own through the use of field emplacements. Scenarios are constructed with forty or fifty turns—although it is rare that games go even half that long. There is much more dice rolling than most boardgamers are used to. In fact, the dice rolling is more reminiscent of *TRACTICS* (a popular set of miniature rules) than *PANZERBLITZ*. But most players have found that, after a few games, the dice rolling 'blends into the background', becoming a necessary evil to allow the detailed game system to handle a wide variance in weapons performance.

TOBRUK is going to be a difficult game for players to master. It is a complex tactical system that is increasingly faithful, in technical aspects, to the historical period it covers. In short, *TOBRUK* is engrossing—a rare adjective in this day of mass produced, one-shot games.

THE TOBRUK MARKETING APPROACH

TOBRUK is being marketed in a radically different manner than past AH games. Basically, the game is being released in two stages. The first stage is a limited PRE-PUBLICATION release which is being offered only to *GENERAL* subscribers and attendees at *ORIGINS I*. Included in this will be a special limited run of 500 games which will be numbered and signed by the designers to appeal to the serious game collectors. In the fall, the game will be officially released in the mail order line. Hopefully, this edition will include rules revisions, expanded Designer's Notes material (some of which appears in this issue) and new experimental rules. Owners of the pre-publication edition can update their game by simply exchanging their old rules booklet for the new one. We recognized the reality of the situation: a game containing such a mammoth, complex, new system is bound to require some revision and 'tightening'. Rather than rely on updating via the Question Box, we have guaranteed the game accuracy by the PRE-PLANNED issuance of an updated edition of the rule book. Why do we bother with the added expense and time requirements for up-dating? Because the system is simply that good and that important.

We realize that we are opening ourselves to the criticism that people purchasing the pre-publication edition are buying a 'half-finished' game. To this we answer a resounding 'no!'. What they are buying is a unique collector's item with a built-in, guaranteed modernization mechanism. We could have waited until the fall to release this title. But then, there would have been no collector's edition and no immediate updating system. The whole approach is new, different, and hopefully quite popular. The 500 autographed copies sold out within a week of mailing Vol. 12, No. 1 of the *GENERAL*. We aren't content to stand pat on the same old tried-and-true design and marketing methods. Judging from the response to the *TOBRUK* special offer you aren't either.

READERS RESPONSE

The Readers Response in the last issue resulted in some interesting figures which will be taken under advisement in considering future potential services Avalon Hill can render to *GENERAL* readers. Only 38% of our sample have ever played wargames with miniatures. However, 83% expressed an interest in our providing them with a series of introductory miniatures rule booklets. Of those who have played miniatures, 66% still showed an interest in an AH line of miniatures rule books. 66% were also interested in buying reduced 8" x 10" hex sheets. A resounding 80% were in favor of a

A.H. PHILOSOPHY Continued on Page 17



TOBRUK *North Africa: 1942*

(The story of the war in the North African desert between 1940 and 1943 is incredibly long and complex and because of this, many books and articles are available to describe it. This summary will therefore ignore the maneuvers of the British and Axis forces which led them to their positions of May 26, 1942 and concentrate on the specific events of the next four weeks; the Battle of Gazala.)

Gazala? Who has ever really heard of the Battle of Gazala besides those who have run across it in general reading or in looking for accounts of the Battle of El Alamein? It can safely be said that, of all of the battles of World War II, few have been so poorly appreciated in importance as has been this one. The battle itself is not well recorded in the histories and its immense and far-reaching impact on the desert war in general and especially the Battle of El Alamein three months later (Alam Halfa ridge) is almost never properly written into the accounts. By some, the Battle of Gazala, and not the Battle of El Alamein, is regarded as the most important single large engagement of the desert war.

The reasons for this are many, but primarily consist of three. First, the Battle of Gazala without a doubt was the most brilliant victory of Erwin Rommel's career, although in achieving it he made some of his most remarkable blunders. It was upon this victory that Rommel was promoted to the rank of Field Marshal, one of the youngest men (49) ever to reach this grade in the history of the German army. Never before the battle or after was Rommel held in such regard by the German and Italian General Staffs, Hitler, and begrudgingly, the British most notably in the form of Winston Churchill.

Second, without the occurrence of this immense victory precisely at this time and in this manner, the German High Command almost certainly would have successfully launched and completed the planned *Operation Herkules*, the sea and airborne invasion of Malta. As it was, the collapse of the Eighth Army on the Gazala Line and the subsequent catastrophic fall of the strategic port of Tobruk and the capture of its huge garrison was enough

to influence Hitler to allow Rommel to push into Egypt in hopes of a quick seizure of the Suez Canal. For this purpose, *Herkules* was postponed and the troops and supplies intended for use in the operation sent to Rommel's army instead. Malta remained unattacked except by air and served as both the staging area for the British El Alamein buildup and the key Royal Navy port from where submarine and surface units could control the Mediterranean and efficiently strangle the Afrika Korps by sinking its supply ships sailing from Italy. The decision by Hitler for the postponement and subsequent abandonment of *Herkules* would not have been made without the Gazala victories, and it was one of the most serious strategic mistakes of the war.

Finally, the collapse of the Gazala Line and Tobruk's fall shook the entire British Empire as nothing had since Dunkirk. Churchill himself was shocked as severely as when the Japanese had sunk the battleships Prince of Wales and Repulse at the beginning of the war. He received the news from the hand of President Roosevelt, while meeting with him in Washington, and his first action was to ask Roosevelt directly for the Lend Lease of 300 of the new Sherman tanks which were intended for equipping the American 1st Armored Division. Roosevelt's immediate answer was yes, and upon that answer the fate of the El Alamein battle was essentially sealed because in addition to the 300 Sherman tanks which far outclassed all but a few Axis vehicles, 100 self-propelled guns and massive stocks of assorted other materials were shipped to the British without delay. No other single factor was more responsible for the rapid rebuilding of the Eighth Army than this, and with the new Shermans absolutely dominating the battlefield, Rommel's attempts to break through the El Alamein Line three months later became in his own words, a "battle without hope." An Axis loss at Gazala, or even a less spectacular victory might well have not produced the same response and the history of the desert war may have unfolded in a considerably different way. For these reasons, then, the Battle of Gazala was of overwhelming importance in changing the course of the desert war.

The Gazala Battles officially began in mid-afternoon of the 26th of May, 1942, when large elements of Italian and German infantry with heavy artillery support assaulted the South African positions on the Gazala Line. (Scenario two in the game is based upon this action.) To understand this or any of the other portions of the battle, however, it is necessary to have a limited understanding of the reasons why the Gazala Line was built by the British in the first place and how the Germans came to attack it.

The Line was established in the period between the retreat of the Eighth Army under German pressure out of the area of Libya known as Cyrenaica (see map) and the beginning of operations in May. It was not designed to be a truly effective defensive line from the outset, but rather an impenetrable shield behind which divisions could be assembled for an offensive unimpeded by the Axis. This buildup necessitated the establishment of huge forward supply dumps immediately behind the line itself and throughout the battle the British were restrained in action partially because of worry that these stores would be captured by the Germans, an idea which as it turns out was indeed part of Rommel's plan.

The line ran from Gazala and the coastline on the north almost straight south to Bir Hacheim for a distance of over 40 miles. It was manned by two Commonwealth divisions, the 1st South African and the British 50th, whose six brigades were disposed in what came to be known as "boxes" or defensive positions which could be defended from any direction. One additional brigade, the First Free French, was located at the line anchor point at Bir Hacheim in a defensive box of such complexity that the position was almost impregnable. Behind the line were scattered various reserve forces mostly in boxes and two full armored divisions and two armored brigades together containing nearly seven hundred tanks, 167 of which were the newly-arrived American Lend-Lease Grants which were far superior to any Axis vehicle at the start of the engagement. In the Tobruk fortress itself was another full division, the Second South African reinforced by one more brigade.

The boxes of the line were marvels of defensive ingenuity and such a departure from normal British defensive policy that field officers from all fronts travelled to Gazala to inspect them. They were surrounded by dense minefields and connected by a "mine marsh" of such complexity (over one-half million mines) that the area to this day has never fully been cleared and has killed or maimed thousands of Arabs since the end of the war. Unfortunately, however, portions of this huge screen were unprotected by fire of any kind and could, therefore, be breached by Axis sappers. In the battle as will be related later, this did indeed occur on a large scale.

Facing this formidable barrier were nine German and Italian divisions and one separate brigade. A total of 560 tanks (332 German and 228 Italian) could be thrown against the line supported by hundreds of self-propelled anti-tank guns and thousands of towed anti-tank weapons including 48 88's which, unlike the British, were thought of by the Axis army as offensive as well as defensive equipment and accompanied most armored attacks. This was a very potent strike force and Rommel, true to form did not hesitate to use it when he felt the time was right.

The time was right on May the 26th. The British, backed by almost complete knowledge of the Axis army dispositions, predicted and expected the attack.

Rommel had two choices for the assault. He could strike the line directly in hope of a breakthrough on a small front for deep penetration to take the airfields and supply bases at El Adem, or he could launch his forces on the long trip down the line and around Bir Hacheim for the purpose of engaging the British armor behind the line. Knowing that while significant British armored units still existed he had no freedom, the second option was chosen. To make the British believe that the first option was being conducted Rommel instructed the DAK (Deutsche Afrika Korps—the German armored portion of the Axis army consisting of the 15th and 21st Panzer divisions) commander, General Crüwell, to take one German mechanized infantry brigade and two Italian infantry divisions and all of the Axis heavy artillery which was too cumbersome for a fighting march of over 50 miles, and attack the north part of the line. To further confuse the British, trucks with airplane engines and propellers on top were to raise huge clouds of dust behind the frontal attack thus making them believe large mobile forces were assembling there. In the meantime, the actual main attack, consisting of DAK, the 90th Light (mechanized infantry) division and two mobile Italian divisions was to assemble at Rotunda Segnali to begin the long southward movement to "right hook" the British line. It was hoped that the British would be surprised and their armor destroyed completely on the 27th with Tobruk itself falling four days later.

By anybody's appreciation, the plan was, on the whole, brash to the point of being reckless and seriously weak in key areas. For example, no thought was given to the possibility that the British armor might indeed not be destroyed on the 27th in which case the strike force would be stuck behind the line living off a 100 mile supply line. No thought seemed to be given to the fact either that the Free French might resist the attack of the one Italian division (the Trieste) assigned to take Bir Hacheim and be in a position to cut this supply line. In the battle, both of these unforeseen events did indeed come about.

The frontal feint attack by Group Crüwell began on schedule at about 2 P.M. on the 26th (Scenario 2) and seven hours later the big sweep was initiated. Over 10,000 vehicles began to drive south and their progress was reported to the British every mile of the way by the efficient "eyes" of the South African Armoured Cars. The feint had fooled no one and the sweep by night was no surprise. But the British Command for some reason did not act on this knowledge and the warning call to consolidate the armored divisions behind the line which had been broken up to achieve better area coverage was not given. This meant that three brigades, the Third Indian Motor at Point 171, the Seventh Armored at Retma and the Fourth Armored at Bir Beuid, were unwarned that a massive attack was headed in their direction.

It took them by surprise on the morning of the 27th. The Third Indian Motor was absolutely destroyed (Scenario 3), the Seventh Motor was forced to retreat quickly, and the Fourth Armored was slammed into by almost the

entire Afrika Korps armor (Scenario 1). The results are as described in the Scenario writeups but in general, the three brigades were neutralized but at great cost to the Axis. Rommel at the beginning of the campaign had based his planning on very erroneous and limited knowledge of the British which, as has been mentioned, was not the case with them. He, for example, had not been aware of the strength of the Grant tank or of its numbers in the Eighth Army nor had he been aware that new and better 6-pounder anti-tank guns were arriving in large numbers (112 at the start of the battle). Had he been appraised by German Intelligence of these facts, he would have been prepared for a harder fight and planned accordingly. As it was, the strength and fighting ability of especially the British armored units surprised and shocked him and his army.

Battered but not slowed the mass of German armor now continued to drive north. By mistake the Trieste division had missed Bir Hacheim during the night and ran into the minefield north of it instead, so the Italian Ariete armored division was broken off to attack the French. Also, the 90th Light broke away to head directly for El Adem in an attempt for a quick coup, and thus only DAK remained to drive north. By afternoon they reached the Knightsbridge area where a heavy British armored counterattack (Scenario 4) essentially stopped the advance. The worst had happened to his attack and Rommel admitted it. His forces were broken up badly with the 90th Light division involved with huge British forces at El Adem, the 15th Panzer and 21st Panzer out of fuel and ammunition on the Rigel and Sidra ridges and the two Italian mobile divisions absolutely stuck by Bir Hacheim. He had lost so many tanks that, for example, only 43 remained in the entire 15th Panzer division. His supply line was nearly 100 miles long and constantly being bombed by the RAF and finally, the British armor had been nowhere near destroyed.

Rommel, however, was not aware of this last fact and so on the next day, the 28th, he ordered the 21st Panzer division to continue to push north which they did and reached the coast. Being so strung out like this and so weak, a concentrated British attack at this time would have undoubtedly stopped the battle and possibly even ended the desert war. No attack came. On the next day, the 29th, Rommel finally properly perceived the situation and, unimpeded by the British, gathered the 21st Panzer, 15th Panzer, 90th Light and Ariete divisions together in the area which soon was known as the Cauldron because of the boiling Axis activity inside of it. The Trieste division in the south had breached the "mine marsh" north of Bir Hacheim in an area unprotected by fire, and at least some supplies could reach Rommel via this route. For full supply of the strike group, however, a more direct and wider channel was needed and this obviously would best go through the minefield at Sidi Muftah.

But, in moving in this direction, it was discovered that one entire brigade, the 150th, lay astride the desired path in one of the strongest boxes in the line. Without a direct route the Axis group would have been slowly destroyed, because not enough supplies could have reached such a large force via the routes available. No option lay open to Rommel except that of attacking the 150th frontally. Between the end of May and the second day of June this desperate battle was conducted (Scenario 5) and for reasons still unknown to this day, no help was given to the 150th by the rest of the Eighth Army until after its last platoon had been destroyed. This help came in the form of a frontal attack on the Cauldron on the 5th of June, three days after the collapse of the 150th brigade and long after the Axis forces in the Cauldron had been almost fully resupplied and re-equipped.

The code name for the big, complicated frontal assault was *Aberdeen* (Scenario 6) and needless to say it was a disaster, running onto well dug in and extensive anti-tank and artillery defenses. Upon its failure Rommel took the opportunity to break out of the Cauldron in a counterattack which was very effective. Free of fear of another British attack and no longer hemmed into the Cauldron area, Rommel could free significant German forces finally to go south and dispose of the Free French once and for all. Again unhindered by the remainder of Eighth Army, this savage but one sided battle was conducted between the 8th and 9th of June (Scenario 8) and brought to a bloody close on the 10th with the evacuation of the French.

Rommel now (11 June) pushed out of the Cauldron area toward the prize of El Adem with all three German divisions plus Ariete at significant strength. The British resisted little although El Adem was not captured by the German forces on the 11th and that night the advance stopped with the German and Italian divisions separated. Thinking this to be an opportunity to attack the German divisions separately, the British planned an assault against the 15th Panzer to begin on the 12th and to use two fairly strong armored brigades, the Second and the Fourth in the attack.

The battle began as expected but when assembled in the jump-off area at Bir Lefa, the two brigades stopped and waited for orders from their divisional commander, General Messervy who was hiding in a dried-up water cistern (a "bir") after being almost captured by Germans. This wait was fatal, because Rommel seeing both units immobile with the 15th Panzer to their south and the 21st Panzer to their west, ordered both divisions to attack immediately.

The subsequent crushing of the two brigades (Scenario 7) was the most decisive defeat suffered by the British up until this time and accomplished what Rommel had intended to accomplish 16 days earlier, the elimination of most of the British armor from the field.

Little need be said about the rest of the campaign. The German and Italian divisions had once again been worn down severely by the Bir Hacheim and Knightsbridge fighting and were therefore unable to stop Eighth Army from successfully evacuating the line. The Tobruk perimeter was surrounded and, remembering the long and unsuccessful siege on one year before, Rommel carefully assembled strong strike forces for its attack over a two day period. He might not have been so cautious, for the fortress was not in this case held by tough confident Australian troops, but by inexperienced South African and Indian troops who had just witnessed the complete collapse of their army and were naturally very shaken.

The attack was launched at dawn on the 20th of June (Scenario 9) in the best of Blitzkrieg traditions. The fortress was surrendered unceremoniously before dawn the next day and yielded the biggest bag of booty that had ever been won in the desert by either side.

Characteristically, Rommel's thoughts were not on Tobruk at all but rather down the coast at Alexandria and the Suez Canal—and El Alamein.

References

1. *Metals Under Impulsive Loads*
2. *The Effect of System Design Characteristics on First Round Hitting Probability of Tank Fired Projectiles, BRL Memorandum Report*
3. "AFV 4, Light Tanks M1-M5", Profile Publications
4. "AFV 8, Crusader-Cruiser Mark VI", Profile Publications
5. "AFV 11, M3 Medium (Lee/Grant)", Profile Publications
6. "AFV 6, Valentine Mark III", Profile Publications
7. "Armor in Profile, No. 15, Infantry Tank Mk. II Matilda", Profile Publications
8. "AFV 1, Panzerkampfwagen III", Profile Publications
9. *Bellona Military Vehicle Prints, Series 32*
10. "Armor in Profile, No. 8, Panzerkampfwagen IV", Profile Publications
11. *Bellona Military Vehicle Prints Series Ten.*
12. "Armor in Profile, No. 14, M13/40", Profile Publications
13. *Tank Data, WE Inc. publishers*
14. *Kampfpanzer 1916-1966, Dr. F. M. Von Senger and Etterlin author*
15. *Armor, R. M. Ogorkiewicz author*
16. *German Secret Weapons of WWII, Lusar author*
17. *German Tanks 1923-1945, Senger and Etterlin author*
18. *TM-E30-451, Handbook of German Military Forces, War Department technical manual*
19. *TM-E30-420, Handbook of Italian Military Forces, War Department technical manual*
20. *German Infantry Weapons of WWII, Barker author*
21. *British and American Infantry Weapons of WWII, Barker author*
22. *Modern War in Miniature, Kornis author*
23. *Weapons and Tactics, Hastings to Berlin, Weller author*
24. *The Rommel Papers, Liddell Hart editor*

For those interested in the design of *Tobruk*, the following References are suggested. For all players a small selection of books can make the Gazala Battles and the desert war very clear through reading. They are:

Rommel by Desmond Young
Rommel as a Military Commander by Ronald Lewin
Tobruk by Michael Carver
Tobruk, the Story of a Siege by Anthony Heck-stall Smith
The Sidi Rezeg Battles and
Crisis in the Desert by J. A. I. Agar-Hamilton and L. C. F. Tucker

The Mediterranean and the Middle East, 4 volumes by I. S. O. Playfair
(the British Official History)
The Foxes of the Desert by Paul Carrell
Brazen Chariots by Robert Crisp
Take These Men by Cyril Joly
With Rommel in the Desert by H. W. Schmidt

The Tanks by B. H. Liddell Hart
Afrika Korps by K. J. Macksey, M.C.
Bir Hakim by Richard Holmes
and, of course,
The Rommel Papers edited by B. H. Liddell Hart
Panzer Battles by F. W. VonMellenthin

The Age of Great Guns by Frank Comparato
The Guns 1939-45 and
Grenades and Mortars by Ian V. Hogg
German Anti-Tank Guns
Infantry Weapons by John Weeks
West of Alamein compiled by Col. G. B. Jarrett

DESIGNER'S NOTES

Weapons Effectiveness

Three guidelines influenced the design of *Tobruk* and were adhered to wherever possible in each stage of the game's development. The first and foremost was the requirement that the effectiveness and peculiarities of weapons were to be emphasized in the game rather than operations and tactics as had been stressed in previous wargames. Weapons effectiveness analysis was to be conducted in a manner which was much more complete than in other games, and this analysis was to be reduced to a workable, playable methodology using the best possible tools to include the digital computer. Fortunately, procedures and data were uncovered during the research for *Tobruk* which made the fulfillment of this guideline possible, and these procedures and data will be discussed further on.

Second, it was planned that no data or methodology used in the game's design was to be so complex or difficult to find that the average player of the game could not obtain it and perform his own weapons analysis or historical comparison should that be his desire. In general, this requirement was satisfied and most of the design materials listed throughout this booklet should be available to any player, although he may have to go to some effort such as requesting Inter-Library Loan or similar procedure to obtain them. Some materials, however, such as very old (pre-WWII) artillery firing tables, etc., are of such a rare nature as to be unavailable without considerable research and where this has been the case, and the data extracted from these sources judged to be of enough importance to anyone wishing to investigate the *Tobruk* design process, the data has been enclosed where appropriate.

An interesting sidenote is in order here. In doing the massive research necessary for proper effectiveness analysis, it was discovered that some detailed data items about many of the weapons were still officially classified and therefore, of course, unusable in the game. There were two reasons for this, the first being that many materials had just simply been overlooked when downgrading became justifiable and the second that, oddly enough, many of the British and Axis weapons involved in the Gazala Battles are still in use throughout the world today. When absolutely required for a given weapon, such data items were estimated based on unclassified data from similar weapons.

The third and final guideline was that of giving the defender the advantage in any doubtful battle resolution. This guideline was strictly adhered to whenever any uncertainty existed. For example, most weapons in the game have much higher possible rates of fire than are represented and used in the effectiveness analysis. The problem is that these higher rates of fire could only be used under very special circumstances which, giving the defender the advantage of the doubt, were assumed to be ignorable except in certain identifiable cases (such as final defensive fires, barrages, etc.). The point is clear that on a battlefield such factors as confusion, obscuration and less than perfect knowledge of the enemy all work in the defender's behalf but can't be easily modelled in a game. This guideline simply reduces the effect of such unplayable factors.

Under these three guidelines, the weapons' effectiveness analyses of *Tobruk* were conducted in the following ways.

A. Anti-armor weapons

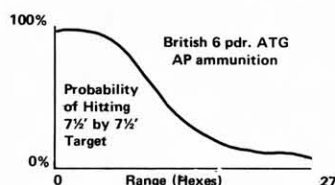
The defeat of an enemy armored target by direct-fire is a problem of the foremost magnitude. The question "Will this projectile defeat this target at this range?" may at first seem to be rather simple to answer by just comparing projectile penetration to armor thickness and making a yes or no decision based on that. In actuality, however, the problems involved are so complicated that, even at today's state of ballistics and metallurgy, the only sure way of answering the question is by taking the target out and shooting at it with the weapon of interest. Reference 1

discusses these problems in some detail but obviously for use in *Tobruk* the solution just mentioned was impractical and assumptions and approximations had to be made.

In general, the entire problem could be boiled down into three questions as related in the rules:

1. Has the target been hit?
2. Where has the target been hit?
3. What has the hit done to the target?

Reference 2 gives a detailed and very satisfactory method for answering the first question provided some data about the firing weapon is known. In general, "quasi-battle" conditions are assumed existing on the field with projectile shape, stability, and especially muzzle velocity determining whether or not a given target is hit at a given range. For each weapon used in *Tobruk*, these parameters were either found in references listed later or could be safely assumed, and probability of hit curves such as the example below could be generated for each and converted into dice rolls for use in the Hit Probability Tables.



Question 2 could in a similar way be answered by making a few assumptions about all targets and then a detailed analysis of each. The general assumptions were:

- a) The aimpoint on each target was roughly in the center of the target.
- b) The only areas on the target which could be hit were the areas facing toward the firing weapon. For example hits scored on the side plates of a target which by definition is facing the weapon with its front are ignored and so on.
- c) The hits scored on the target are divided according to the amount of area each portion of the target presents to the firing weapon. For example, suppose the Front Upper Hull plate of a tank target constituted 1/3 of the total presented area of the tank when viewed directly from the front, then it would be assumed that 1/3 of the hits scored on the front of the tank landed on that plate. In reality, this is not mathematically accurate but for use in *Tobruk*, quite acceptable.

With these assumptions, the projected areas of each target were analyzed using references 3 through 13 and Area Impacted tables built for AFV.

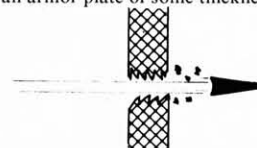
Finally, the incredibly complicated problem of question 3, whether or not the target was damaged if hit, had to be addressed. First and foremost, range dependent armor penetration data for each weapon of interest had to be gathered and from among literally dozens of sources, the data of references 14 through 18 was accepted for initial use. Second, armor specifics for each possible target had to be obtained and vulnerable areas of each target were extracted.

With this basic mass of data the following step by step procedure was followed to determine the results of each possible projectile/area impacted combination in the game. With only five British and six Axis target AFV types, incidentally, this meant 1284 separate and distinct evaluations had to be performed:

Step 1: Armor "penetration" data is usually based on static firings of weapons against armor plates of average quality which, in the jargon of metallurgy is called homogeneous armor. Perforation or piercing of the same plate is a considerably harder task, however, and what this basic perforation capability of the projectile against homogeneous armor had to be calculated.

Step 2. All Pz.III, Pz.IV and Stuart tanks in the game were protected in certain vital areas by armor of considerably different characteristics than that of homogeneous armor by virtue of being hardened to resist attack. The effect of this hardening had to be considered inasmuch as it could either add to or subtract from the vehicle's protection depending upon the size of the impacting projectile.

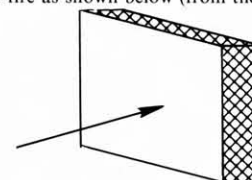
Step 3. All armor plates, whether homogeneous or hardened, protect the vehicle by different amounts depending upon their sloping with respect to the attacking projectile. This sloping is not simply the slope of the plate with respect to vertical, but is also the extra slope of the plate in the ground plane and neither effect can be ignored. This is such a complex problem that an illustration is in order for better understanding. Assume we have an armor plate of some thickness being fired at:



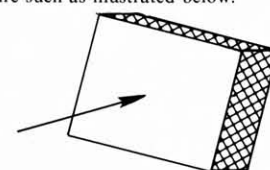
and which can be pierced when vertical.

Sloping of that plate may cause the attacking projectile to either ricochet or even shatter depending upon the projectile type and the hardness of the plate.

But the sloping "bonus" enjoyed by the plate must be evaluated taking into account that, mathematically, the probability of the plate lying exactly perpendicular to the line of fire as shown below (from the top):



is exactly zero. In other words, in any actual battlefield condition the plate will probably lie at some angle to the line of fire such as illustrated below:



Assuming the ground is perfectly flat (not a bad assumption in the desert) and assuming a straight-line projectile flight to the target plate (a bad assumption anywhere but one which gives the defender the advantage), it can be safely assumed that the plate's vertical slope is constant. The horizontal slope, however, definitely varies as the target faces the firing weapon differently. For example, by definition in the game, a vehicle being engaged from the "front" may actually be sitting with up to a 30 degree horizontal angle with respect to the line of fire. As mentioned before, hits scored on the target's side plates in this case are not counted, but that 0 degree—30 degree bonus to the receiving plate cannot be realistically ignored, especially when it has a very significant impact on whether or not the vehicle is damaged. During the desert war, incidentally, German panzer crews were instructed to approach the enemy at an angle, so that this horizontal slope bonus was maximized.

A serious problem arises, however, in trying to account for this horizontal bonus in a realistic way. For example, in the case illustrated above the target could be assumed to be always facing at the maximum angle of 30 degrees, but this would really be giving too much of a break to the defender and, of course, assuming the opposite being true, that of only a 0 degree facing would be unfair to him. A method had to be developed to account for this effect in

a probabilistic way, and to do in such a way as to not encumber the play of the game with for example another dice roll. Needless to say, after much effort such a method was discovered and the IMPACT computer program written to implement it into the game. Without going into any details of the IMPACT procedures, be it enough to say that all important effects, such as plate hardness and projectile type, were analyzed, and the result was such that this probabilistic horizontal sloping bonus was amalgamated into the Area Impacted Table for each AFV target. This means, for instance, that say 1/3 of a target's total frontal aspect was composed of its front lower hull plate which would represent 12 out of 36 (the maximum number of different results of rolling two dice) "Front Lower Hull" hits on its Area Impacted Table. With the bonus of the target's random facing factored in by the use of IMPACT, these 12 hits might be reduced to perhaps 8, with the other four being defined as ricochets caused by the target's facing at some angle.

This is not a perfect solution, obviously, but it at least accounts for the problem to some extent and certainly enough for a commercial wargame like *Tobruk*. Even the partial solution as just described (briefly by the way) has a terrific impact on the play of the game. Just notice how difficult it is to get a hit to "stick" to the front of a Pz.III J Special and this should become apparent.

Step 4. Once a projectile is defined as having hit a target and not ricocheted, it must be determined whether or not the projectile (or its fragments if shattered) has pierced the plate and what damage was done. An almost straight comparison of piercing power vs. armor effective thickness may be made to answer the first part, and an analysis of target internal layout and projectile design can answer the second. One example of this process should be sufficient to illustrate.

Suppose at a range of 6 hexes a Pz.III J Special using the 50mm long weapon had scored a Front Lower Hull hit on a Honey tank. A quick comparison of the effective armor thickness of the Honey at this point (70mm) and the armor piercing ability of the 50mm long APCBC (normal armor-piercing ammunition) at this range (71mm) shows that indeed the round has gotten into the Honey. At this spot in the tank, however, is located the transmission and final drive mechanisms behind which sit the driver and hull machine gunner. Since the round has barely managed to break through the armor plate in front of the final drive assembly, it simply doesn't have enough remaining momentum (kinetic energy) to continue through the assembly itself and kill or injure one or both of these two crewmen and so they can be considered safe. However, the mechanisms of the assembly most certainly will have been damaged by the round itself or the fragments of armor plate which it probably blew into the assembly upon entering, and so the mobility of the Honey has probably been destroyed and thus, an 'M' kill scored. Finally, the 50mm APCBC round, like most German and Italian ammunition, was cleverly designed to explode after piercing into a target and, in this case, the portion of target entered happens to contain inflammable fluids. The combination of these factors produces a high probability of fire, and thus the 'P4' result as well.

All of this, and one M(P4)≤6 is placed on the Honey sheet with 1283 additional evaluations, some trivial, some very complex, needed to be done for analyzing the AFV's involved in the game.

B. Gunfire Anti-personnel Weapons

Compared to the above, the evaluations of these weapons was relatively simple. In general, any rifle, submachinegun, light machinegun or medium machinegun may be evaluated as having a probability of inflicting a kill or serious (battle incapacitant, all lighter wounds were ignored in *Tobruk*) wound on a certain number of man-targets as a function of the:

1. Weapon's rate of fire to include loading times, stoppages, cyclic rate of fire, and burst fire tactics to avoid overheating.
2. Range from the firing weapon(s) to the target unit and the probability of one round from the weapon hitting one man in the target at that range.
3. The motion or cover state of the target being fired upon.

References 20 through 22 provided enough data for the calculations of these variables for each weapon in the

game and references 18, 19, and 23 provided the basic numbers and types of weapons used by the personnel units of each side. When combined, a firepower value in the form of Gunfire Factors for each personnel unit at all possible ranges was calculated for each type of unit.

Further elaborating will not be done here, but if interested, a player may refer to the above references, especially number 22, (although erroneous in spots) for more details of this process and data.

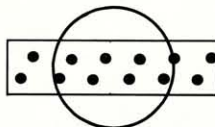
C. Artillery and Mortar Weapons

The evaluation of the effectiveness of these weapons is strongly affected by a set of assumptions not required in the evaluation of the previous two types. These assumptions are very broad, but not unreasonable for a board wargame. Briefly, they are:

1. Any artillery (including direct-fire) or mortar weapon can be assumed to have associated with it a "CEP", or Circular Error Probable, figure which very simply represents the radius of a circle centered at the target within which 50% of the ammunition fired by that target will land. This CEP is definitely range-dependent; that is, the closer to a target that the firing weapon is, the smaller the CEP will become although, for some technical reasons, it will never reach zero (perfect accuracy).
2. Any target may be approximated by a circle on the ground of some radius RT. As an example, a tank may be approximated by such a circle:



as can a section of infantry:



and so on.

3. Any munition type, such as an Italian 81mm mortar round for example, may have associated with it some "lethal radius" (RL) within which a target may be damaged or destroyed. For example, the 81mm round just mentioned may be described as having an RL against an infantry target of 7.0 meters, within which any man target will probably be killed or seriously wounded by the fragments or blast from the exploding round. Against a tank target, for example, this RL for damaging or destroying the tank will obviously be considerably less.

Under these three assumptions, then, the effectiveness of fires against various targets may be analyzed. The equations for this analysis are in common use throughout the military Operations Research community and won't be referenced here; although most OR textbooks and papers discuss them and their derivations in detail. They consist of:

1. Probability of hitting a target, PH:

$$PH = 1 - e^{-0.693 \left(\frac{RT}{CEP} \right)^2}$$

(where $e = 2.718$)

2. Fractional coverage of a target F by one round of lethal radius RL:

$$F = \left[\frac{\pi RT^2 (2P) - RT^2 \sin(2P)}{360} + \frac{RL^2 (2S) - RL^2 \sin(2S)}{360} \right] \frac{R}{SIG} \geq e^{-\frac{R^2}{SSIG^2}}$$

where R is the distance from the burst to the target, P, S, and SIG parameters.

3. And the fractional coverage FKN of a target with N rounds each covering the target by amount F as calculated above:

$$FKN = 1 - (1 - F)^N$$

Using these three equations, plus other assumptions peculiar to *Tobruk* targets, the artillery and mortar effectiveness may be calculated and, working backwards, related to casualty production so that the same Casualty Table used by gunfire weapons may be utilized. Errors

again occur in doing this, but for use in *Tobruk* they are safely ignorable. Artillery battery specifics input to this calculation include the size of each battery (always four guns or howitzers except the 75mm(F) which was six guns) and the individual weapon rates of fire which will be related later. Dud rates of ammunition were also considered, and surprisingly enough found to be significant

Systems Specifics

A. BOARD

The board chosen for use with *Tobruk* requires little comment because there is little to it. The 75 meter hex was chosen to allow for reasonable maneuver on the board while prohibiting the longest-range weapon used, the 88mm FLAK, from completely commanding an engagement. In addition, the CEP's of all artillery and mortar weapons used in the game are such that a 75 meter hex will probably receive most of their fire and rounds falling in adjacent hexes may be ignored. There is no terrain of any kind on the board for two reasons. First, the actual terrain upon which most of the Gazala battles were fought is indeed very flat and featureless. Any "terrain" protection desired by the combatants in general had to be provided by they themselves through entrenchments and concealment. Second and most important, though, it was discovered through play-test of *Tobruk* predecessors that almost any terrain feature of any kind on a battlefield of this size (about 2 miles by 3 miles) absolutely dominates in the play of the game. As discussed in the Introduction, *Tobruk* is intended to be a game of weapons and personnel, and not one of tactics as dictated by terrain. Rommel himself in his Papers (reference 24) related exactly this feeling when he wrote:

"Of all theaters of operations, it was probably in North Africa that the war took on its most advanced form. The protagonists on both sides were fully motorized formations, for whose employment the flat and obstruction-free desert offered hitherto undreamed of possibilities. It was the only theater where the principles of motorized and tank warfare, as they had been taught theoretically before the war, could be applied to the full and further developed. It was the only theater where the pure tank battle between major formations was fought."

B. VEHICULAR UNITS

Each vehicle type used by either side during the Gazala Battles was very unique in performance and peculiarities. References 3 through 13 list these specifics in detail but a short list of the most important items will be presented here for completeness.

1. British:

Nomenclature	— U.S. M3 Light tank "Honey" or "Stuart"
Weight	— 13 tons
Maximum road speed	— 36 mph
Flat desert speed	— 23 mph
Maximum armor	— 38mm
Crew	— 4; 2-man turret
Weapons	— 1 .37mm M6, 2 .30 cal Browning MG's
Use in Gazala Battles	— Main battle tank when necessary.
Comments	— Light, fast and reliable vehicle. Not well suited to the role of battle tank but used as one anyway. Surprisingly good armor for light vehicle, very accurate main gun. Two man turret was a slight liability.



Nomenclature	— Cruiser Mk II, Crusader II
Weight	— 19 tons
Maximum road speed	— 28 mph
Flat desert speed	— 22 mph
Maximum armor	— 49mm
Crew	— 5; 3-man turret
Weapons	— 1 2 pounder, 2 Besa MMG
Use in Gazala Battles	— Main battle tank.
Comments	— Very unreliable vehicle with a weapon not equal to any other on the field. Disliked by its crews and not feared by the enemy. Very combustible when hit. Poorly arranged armor which good speed could never overcome. Close Support (C.S.) version had 3" howitzer mainly for firing smoke.



Nomenclature
Weight
Maximum road speed
Flat desert speed
Maximum armor
Crew
Weapons

- U.S. M3 Medium "Grant"
- 30 tons
- 26 mph
- 17 mph
- 57mm
- 6; 3-man turret, 2-man sponson
- 1 75mm M2, 1 37mm M6, 3 .30 cal Browning MMG
- Main battle tank.
- Key British tank in battle. Very heavy armor and two powerful weapons—on fast and very reliable chasis.



Nomenclature
Weight
Maximum road speed
Flat desert speed
Maximum armor
Crew
Weapons
Use in Gazala Battles

- Infantry Tank Mk III, Valentine II
- 16 tons
- 15 mph
- 11 mph
- 65mm
- 3; 2-man turret
- 1 2-pounder, 1 Besa MMG
- Infantry support tank, battle tank when needed.
- Very well built and reliable equipment. Slow speed, 2-pounder gun and two man crew limited battle effectiveness. Very thick and well-placed armor.



Nomenclature
Weight
Maximum road speed
Flat desert speed
Maximum armor
Crew
Weapons
Use in Gazala Battles

- Infantry Tank Mk II, Matilda II
- 27 tons
- 15 mph
- 11 mph
- 78mm
- 4; 3-man turret
- 1 2-pounder, 1 Besa MMG
- Infantry support tank, battle tank when needed.
- Very slow vehicle with limited effectiveness due to 2-pounder main gun. Very expensive to build due to cast hull. Replaced by Valentine before El Alamein.



2. Axis

Nomenclature
Weight
Maximum road speed
Flat desert speed
Maximum armor
Crew
Weapons
Use in Gazala Battles
Comments

- Panzerkampfwagen III, Model H
- 19.5 tons
- 24 mph
- 17 mph
- 60mm
- 5; 3-man turret
- 1 50mm L/42, 2 MG34 MMG
- Main battle tank.
- The heart of the Afrika Korps. Fast, reliable and well armed although short 50mm unable to cope with Grant. Extra bolted on hard armor was an effective counter to most British weapons.



Nomenclature
Weight
Maximum road speed
Flat desert speed
Maximum armor
Crew
Weapons
Use in Gazala Battles
Comments

- Panzerkampfwagen III, Model J, Special
- 23 tons
- 25 mph
- 17 mph
- 77mm
- 5; 3-man turret
- 1 50mm L/60, 2 MG34 MMG
- Main battle tank.
- Very dangerous vehicle—only real match for Grant on field but only 19 with DAK on 26 May. Long gun very accurate and lethal although it was the most powerful which could fit into the turret and thus the Pz. III series stopped developing at this point. Like H, hard extra armor very difficult to defeat.



Nomenclature
Weight
Maximum road speed
Flat desert speed
Maximum armor
Crew
Weapons
Use in Gazala Battles
Comments

- Panzerkampfwagen IV, Model E
- 22 tons
- 26 mph
- 17 mph
- 60mm
- 5; 3-man turret
- 1 75mm L/24, 2 MG34 MMG
- Support tank, battle tank if needed.
- Good, reliable tank like Pz. III but next to useless in tank battle due to short gun. Could bombard enemy from up to 3000 meters even while moving with lethal HE, however. A few "Special" version of the Pz. IV with the new long-barreled 75mm were used beginning at Bir Hacheim but not included in game.



Nomenclature
Weight
Maximum road speed
Flat desert speed
Maximum armor
Crew
Weapons
Use in Gazala Battles
Comments



Nomenclature
Weight
Maximum road speed
Flat desert speed
Maximum armor
Crew
Weapons
Use in Gazala Battles
Comments



Nomenclature
Weight
Maximum road speed
Flat desert speed
Maximum armor
Crew
Weapons
Use in Gazala Battles
Comments



C. Weapon Units

Even though weapons are identified as being used by one side or the other, it must be stressed that both sides in the desert made extensive use of captured weapons whenever possible. The reason for this was that, unlike AFV's, weapons in general required no special supplies of spare parts or maintenance equipment to be kept in operation and can be set up and used with far less training than in the case of an AFV. The following lists the most important data for each weapon type used in the game by either side:

1. British

Nomenclature
Weight in action
Crew
Ammunition generally used
CEP (indirect fire)
Rate of fire
Ammunition dud rate
HE round lethal radius
Comments



Nomenclature
Weight in action
Crew
Ammunition generally used
CEP (indirect fire)
Rate of fire
Ammunition dud rate
HE round lethal radius
Comments



- Sd. kfz. 139, Marder III
- 11 tons
- 26 mph
- 17 mph
- 52mm
- 4; 2-man gun position
- 1 76.2mm(r), 1 MG 37 MMG
- Tank destroyer.
- Effective use of modified captured Russian field gun on captured Czech chasis. Gun was so powerful that British at first thought that self-propelled 88mm FLAK guns had been introduced. Open top, limited gun traverse, and two-man gun crew limited overall effectiveness.

- Carro Armato Tipo M13/40
- 14 ton
- 20 mph
- 11 mph
- 50mm
- 4; 2-man turret
- 1 47mm L/32, 3 Breda 38 MMG
- Main battle tank.
- Slow, "self-propelled coffin" with weak armor everywhere but the turret front. Good gun but not good enough to prevent many Italian tankers from being killed in battle. Unreliable, highly combustible when pierced.

- Obice DA 75/18, Semoviente
- 14 tons
- 19 mph
- 11 mph
- 50mm
- 4; no turret
- 1 75mm L/18
- Support field gun
- Basically the same vehicle as the M13/40 but with field gun instead of anti-tank gun. Same weaknesses as M13/40 but could fire effective HE shell like German Pz. IV out to long range even while on the move.

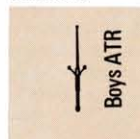
- Muzzle Loading Mortar, 2"
- 10 lb.
- 1-man
- HE
- 5—20 meters
- 12 rpm
- 1.6 meter
- Standard British light mortar. Still in use after Korean War and highly prized by British infantry.

- Medium Mortar, 3"
- 126 lb.
- 6-men
- HE, smoke
- 8-33 meters
- 10 rpm
- 7.1 meters
- Standard British medium mortar still in use although modified. Suffered from short range in desert and, like all British munitions, from small lethal radius of fragmentation due to use of poor grade metals in shells.

Nomenclature
Weight in action
Crew
Ammunition generally used
CEP (indirect fire)
Rate of fire
Ammunition dud rate
HE round lethal radius
Comments



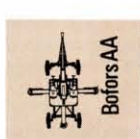
Nomenclature
Weight in action
Crew
Ammunition generally used
CEP (indirect fire)
Rate of fire
Ammunition dud rate
HE round lethal radius
Comments



Nomenclature
Weight in action
Crew
Ammunition generally used
CEP (indirect fire)
Rate of Fire
Ammunition dud rate
HE round lethal radius
Comments



Nomenclature
Weight in action
Crew
Ammunition generally used
CEP (indirect fire)
Rate of fire
Ammunition dud rate
HE round lethal radius
Comments



Nomenclature
Weight in action
Crew
Ammunition generally used
CEP (indirect fire)
Rate of fire
Ammunition dud rate
HE round lethal radius
Comments



Nomenclature
Weight in action
Crew
Ammunition generally used
CEP (indirect fire)
Rate of fire
Ammunition dud rate
HE round lethal radius
Comments

- .303 Vickers Medium Machine-gun
- 42 lb.
- 6-men
- Ball, tracer
- 500 rpm (cyclic)
- World War I design using Maxim action. Reliable, effective and given up, unhappily, by the British infantry only long after the war. Like 3" mortar, usually attached to infantry companies when needed in sections of two.

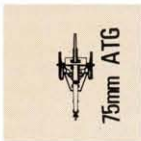
- .55 inch Boys Anti-tank Rifle
- 36 lb.
- 1-man
- Armor piercing incendiary
- 15 rpm
- Heavy weapon notable, and feared, for three times the kick of a shotgun but with almost no armor-piercing capability. Inasmuch as it could damage light vehicles and break the track of any tank, it was still of use until shaped charge weapons became generally available in 1943.

- 2 pounder anti-tank gun
- 1.8 tons
- 5-men
- AP non-explosive shot only
- 22 rpm
- Standard British ATG at beginning of war but obsolete by 1942. At Gazala still main ATG although supposedly replaced in artillery units by 6 pounder. Small, uncapped shot shattered easily on German hard armor.

- 40mm Anti-aircraft Gun (Bofors)
- 2.4 tons
- 6-men
- HE, AP
- 120 rpm (cyclic)
- 1.6 meters
- Swedish design standardized as medium AAA by many countries and still in use today. Effective in main role but secondary role as ATG limited by sights.

- 6 pounder Anti-tank Gun
- 1.22 tons
- 5-men
- AP non-explosive shot only
- 15 rpm
- Excellent hard-hitting piece. Only 112 in hands of Royal Artillery units of Eighth Army at start of battle. Like 2 pounder, no HE shell available which limited use. Impressive performance convinced American army to adopt as 57mm ATG.

- French 75mm gun, Model 1897 MI
- 1.3 tons
- 6-men
- HE, smoke, AP
- 22 meters
- 12 rpm
- 30%
- 12 meters
- World War I French main field gun.



Used by Free French at Bir Hacheim both as artillery and ATG. Limited range and high ammunition failure rate due to age limited use, but six-gun battery and high rate of fire made battery fires very effective. Grant main gun based upon it.

Nomenclature — 25 pounder gun—howitzer
Weight in action — 1.8 tons
Crew — 8-men
Ammunition — HE, AP, smoke
 generally used — 42 meters
CEP (indirect fire) — 6 rpm
Rate of fire — 20%
Ammunition dud rate — 13.6 meters
HE round lethal radius — Standard British field gun until long after the war. Effective as artillery and when necessary as ATG although lack of suitable sight limited range.
Comments



4.5 inch gun

Nomenclature — 4.5 inch Gun
Weight in action — 5.7 tons
Crew — 9-men
Ammunition — HE, smoke
 generally used — 45 meters
CEP (indirect fire) — 2 rpm
Rate of fire — 20%
Ammunition dud rate — 17 meters
HE round lethal radius — Standard British medium piece in service at Gazala. Long range and good accuracy at range made piece very effective and well respected.
Comments

155mm Howitzer

Nomenclature — U.S. 155mm Howitzer M1
Weight in action — 6.3 tons
Crew — 9-men
Ammunition — HE, smoke
 generally used — 47 meters
CEP (indirect fire) — 2 rpm
Rate of fire — 15%
Ammunition dud rate — 19.9 meters
HE round lethal radius — Standard U.S. medium howitzer still in use today. Used in conjunction with 4.5" gun by British in medium batteries at Gazala.
Comments

2. German

Nomenclature — 5 cm. Granatwerfer 36 (50mm mortar)
Weight in action — 31 pounds
Crew — 2-men
Ammunition — HE
 generally used — 5—20 meters
CEP (indirect fire) — 12 rpm
Rate of fire — 15%
Ammunition dud rate — 2.7 meters
HE round lethal radius — Very effective light weapon but like British 2" and Italian 45mm usefulness in desert limited due to short range. Powerful HE shell. Very heavy compared to 2".
Comments



Nomenclature — 8 cm. Granatwerfer 34 (81mm mortar)
Weight in action — 125 pounds
Crew — 6-men
Ammunition — HE and smoke
 generally used — 7—42 meters
CEP (indirect fire) — 12 rpm
Rate of fire — 15%
Ammunition dud rate — 7.5 meters
HE round lethal radius — Very effective weapon usually attached to infantry company in half-platoons of three weapons. Longer range than British 3".
Comments

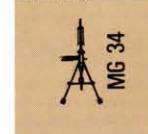


Nomenclature — Pz. B. 39 (7.92mm ATR)
Weight in action — 28 pounds
Crew — 1-man
Ammunition — AP with tear gas filler
 generally used —
CEP (indirect fire)

Rate of fire — 10 rpm
Ammunition dud rate —
HE round lethal radius —
Comments



Nomenclature — 7.92mm MG34 Medium machine-gun
Weight in action — 42 pounds
Crew — 4-men
Ammunition — Ball, AP
 generally used —
CEP (indirect fire) — 800 rpm (cyclic)
Rate of fire —
Ammunition dud rate —
HE round lethal radius —
Comments — Same weapon as section MG34 except equipped with heavy tripod which allowed more accuracy and longer bursts. Like section weapon, high rate of fire produced ammunition supply problem. Usually attached to company in half-platoons with two weapons.



Nomenclature — 2.8 cm. S.Pz.B.41 (28/20 PAK)
Weight in action — 491 pounds
Crew — 3-men
Ammunition — Armor piercing composite non-rigid, HE
 generally used —
CEP (indirect fire) — 10 rpm
Rate of fire —
Ammunition dud rate — .14 meters
HE round lethal radius — First production military weapon to use "squeeze-bore" principle to gain high velocity (4550 ft/sec) projectile. Small sight and instability of ammunition limited accurate range but tungsten carbide projectile could pierce almost any British tank.
Comments



Nomenclature — 5 cm. PAK 38 (50mm PAK)
Weight in action — 2145 pounds
Crew — 6-men
Ammunition — APCBC, APCR, HE
 generally used —
CEP (indirect fire) —
Rate of fire —
Ammunition dud rate — 7.5 meters
HE round lethal radius — Standard German ATG and main gun on Pz. III J Special. High velocity and excellent sights gave high accuracy, but special APCR ammunition required to defeat heavier British armor. Lethal HE shell for use against soft targets.
Comments



Nomenclature — 7.5 cm. LIG
Weight in action — .39 tons
Crew — 5-men
Ammunition — HE, smoke
 generally used — 35 meters
CEP (indirect fire) — 6 rpm
Rate of fire — 15%
Ammunition dud rate — 11.1 meters
HE round lethal radius — Infantry support weapon for bringing of direct fire onto resistant targets. Although antiquated, retained and used by German army unit end of war. Kept in support companies of rifle regiments along with 150mm version (SIG) not included in game. Attached to company in sections of two.
Comments



Nomenclature — 8.8 cm. FLAK 36
Weight in action — 5.5 tons
Crew — 11-men
Ammunition — APCBC, HE
 generally used — 24 meters
CEP (indirect fire) — 15 rpm
Rate of fire — 10%
Ammunition dud rate — 16.0 meters
HE round lethal radius — Most famous German weapon of war. Excellent medium anti-aircraft gun, excellent field gun when needed, but most famous as anti-tank gun, especially in desert. High-quality optics and stable platform gave most accuracy of any weapon at Gazala. High velocity projectile and high rate of fire rounded out the threat to tanks. Weapon itself, however, was large, vulnerable to fragmentation, and heavy. These weaknesses were corrected in 88mm ATG's later in war.
Comments



105mm Howitzer

Nomenclature — 10.5 cm. L.F.H. 18 (105mm howitzer)
Weight in action — 2 tons
Crew — 6-men
Ammunition — HE, smoke
 generally used — 38 meters
CEP (indirect fire) — 6 rpm
Rate of fire — 15%
Ammunition dud rate — 16.7 meters
HE round lethal radius — Standard Germany army field howitzer until end of war. Effective, well-designed piece equal in performance to 25 pounder or American 105mm.
Comments

150mm Howitzer

Nomenclature — 15 cm. S.F.H. 18 (150mm howitzer)
Weight in action — 5.4 tons
Crew — 8-men
Ammunition — HE, smoke
 generally used — 49 meters
CEP (indirect fire) — 2 rpm
Rate of fire — 15%
Ammunition dud rate — 23 meters
HE round lethal radius — Standard German medium howitzer. Companion piece to 105mm L.F.H. 18.
Comments

105mm Gun

Nomenclature — 10.5 cm. K18 (105mm gun)
Weight in action — 5.5 tons
Crew — 8-men
Ammunition — HE, smoke
 generally used — 30 meters
CEP (indirect fire) — 6 rpm
Rate of fire — 15%
Ammunition dud rate — 16.7 meters
HE round lethal radius — Standard German long range gun. With 150mm K18 formed basis of DAK Army Artillery. Because of long range, both weapons especially useful for counter-battery fires.
Comments

150mm Gun

Nomenclature — 15 cm. K18 (150mm gun)
Weight in action — 12.5 tons
Crew — 8-men
Ammunition — HE, smoke
 generally used — 42 meters
CEP (indirect fire) — 2 rpm
Rate of fire — 15%
Ammunition dud rate — 23 meters
HE round lethal radius — Companion piece in Army Artillery to 10.5 cm. K18. By far longest-ranged weapon in game.
Comments

3. The Italians

Nomenclature — 45mm M35 Brixia (45mm mortar)
Weight in action — 34 pounds
Crew — 2-men
Ammunition — HE
 generally used — 5—20 meters
CEP (indirect fire) — 25 rpm
Rate of fire — 20%
Ammunition dud rate — 0.7 meter
HE round lethal radius — Equivalent weapon to British 2" or German 50mm. Threw "Red Devil" grenades at very high rate out to same range as other two mortars. Its use in the desert was therefore limited. Attached to company in sections of three weapons.
Comments



Nomenclature — 81mm M35 (81mm mortar)
Weight in action — 129 pounds
Crew — 6-men
Ammunition — HE, smoke
 generally used — 6—39 meters
CEP (indirect fire) — 18 rpm
Rate of fire

Ammunition dud rate — 20%
 HE round lethal radius — 7.0 meters
 Comments — Best mortar in desert. Outranged British and German equivalents. High rate of fire, accuracy and lethality made it very effective. Usually attached to rifle company in sections with one weapon.



Nomenclature — 8mm Medium machine-gun (Breda 37)
 Weight in action — 83 pounds
 Crew — 6-men
 Ammunition generally used — Ball, AP
 CEP (indirect fire) — —
 Rate of fire — 450 rpm (cyclic)
 Ammunition dud rate — —
 HE round lethal radius — —
 Comments — Standard MMG and best Italian machine-gun. Complicated design led to problems in the desert due to dust.



Nomenclature — 20mm Heavy machine-gun (20mm Breda)
 Weight in action — 680 pounds
 Crew — 4-men
 Ammunition generally used — AP, HE
 CEP (indirect fire) — —
 Rate of fire — 120 rpm (cyclic)
 Ammunition dud rate — —
 HE round lethal radius — 0.2 meter
 Comments — Heavy weapon for anti-aircraft, anti-tank and anti-personnel use. Limited anti-tank capability but high rate of fire proved it to be dangerous. British put to use all they could capture.



Nomenclature — 47mm L/32 Breda (47mm ATG)
 Weight in action — 1160 pounds
 Crew — 6-men
 Ammunition generally used — AP, HE
 CEP (indirect fire) — —
 Rate of fire — 15 rpm
 Ammunition dud rate — —
 HE round lethal radius — 6.2 meters
 Comments — Standard support and anti-tank weapon of Italian army. Usually attached to infantry company in platoons of 2 weapons apiece. Light enough to be manhandled at slow speed.



105 Howitzer

Nomenclature — 105mm L/28 Ansaldo (150mm howitzer)
 Weight in action — 2 tons
 Crew — 6-men
 Ammunition generally used — HE, smoke
 CEP (indirect fire) — 35 meters
 Rate of fire — 6 rpm
 Ammunition dud rate — 25%
 HE round lethal radius — 13.5 meters
 Comments — Standard Italian field howitzer but never in enough quantity to replace older weapons. As good as German 105 or British 25 pounder.

149mm Gun

Nomenclature — 149mm L/40 Ansaldo (149mm gun)
 Weight in action — 5.4 tons
 Crew — 8-men
 Ammunition generally used — HE, smoke
 CEP (indirect fire) — 45 meters
 Rate of fire — 2 rpm
 Ammunition dud rate — 25%
 HE round lethal radius — 18.9 meters
 Comments — By far the best Italian medium piece; on rough par with 4.5" British.

D. STUKAS

Nomenclature — Ju-87-BI "Stuka"
 Speed — 210 mph
 Crew — 2-men
 Armament in game — one-500 Kg. demolition bomb
 four-50 Kg. fragmentation bombs

The Stuka dive-bomber is as infamous as probably any other weapon of war before or since. In the minds of German tactic planners such as Rommel, however, the Stuka was not regarded as being decisive nor, for that matter, even remarkably effective except for use in its very clearly defined tactical role—that of the "heavy artillery" of the mobile divisions. In this role it indeed excelled, and as such was a critical part of the concept of the Blitzkrieg or lightning war about which so much has been written.

In the desert, however, the Stukas really weren't all that useful simply due to the lack of suitable targets for them except in rare cases. It's somewhat wasteful to use an 1100 pound (500kg) bomb against a target that one anti-tank projectile could destroy. Nevertheless, the Stukas were massively used by the Germans (the Italians flew them also, incidentally) whenever the proper opportunity arose, such as when attacking Bir Hacheim or the Tobruk perimeter and whenever "heavy artillery" was needed.

In the game, the Stukas used are assumed to carry only one of several possible bombloads and their use for ground strafing is not allowed. They are assumed to always be "on call" (Luftwaffe officers were usually attached to ground units like FO's) and are assumed to bomb in the following way:

Release altitude — 1500 feet
 Release flight angle — 80°
 Impact angle — 85°



which produces a CEP of 33 meters for the large bomb and 35 meters for each of the small ones. Their lethal radii against personnel are 38 meters and 23 meters respectively.

E. Personnel Units

All personnel units in *Tobruk* are different in composition, both in men and in weapons. In general, these compositions may be found in sources to be referenced later, but it must be remembered that on the field in the real battle standardization rarely existed. Losses from engagement to engagement could almost never be fully replaced and as the campaign progressed personnel units of all types would change as to what weapons were carried by individuals in the units. For example, German infantry sections would grab up as many extra MG34 light machineguns as became available as the battle wore on and so forth. In the game, however, no easy way existed to model such improvisation and so every personnel unit is assumed to be as described in the organization tables or "TO&E's".

The basic *Tobruk* personnel unit is, of course, the infantry section from which all larger units are built. The highest echelon which can be reached by either side in the game is a company, but a full-strength company might represent in the later stages of the battle a unit of battalion strength or even larger. If desired, additional *Tobruk* counter sets may be added together on the board to form larger standard units than one company, but in the desert a battlefield of the board size (about 2 miles by 3 miles) was about the correct size to allow for full movement of nothing much above a battalion and the mechanics of the game were designed with this limit in mind. (Players who build higher echelon units on the board run the risk of making the game unwieldy and not much fun to play.)

The companies on each side are represented in numbers of men and sub-unit composition on their respective roster charts, but some comments are in order as to the weapons and any special characteristics of each as used in the game.

1. British—The British desert infantry section contained 10 men composed of one non-commissioned officer (NCO) armed with an American Thompson sub-machinegun, two men operating .303 cal. Bren light machinegun and seven men armed with Enfield .303 cal. Mk.3 bolt-action rifles. The platoon is composed of three of these sections with a platoon headquarters section of seven men all armed with Enfields and the platoon leader HQ group itself of only two men, one of whom is assumed to carry a rifle and the other just a pistol. In the HQ section were usually located the platoon's 2" mortar and Boy's .55 cal. anti-tank rifle but these were often given to a

rifle section to use when needed. The company was composed of three of these platoons plus the company commander HQ group of two men armed like the platoon leader's and nine-man section, each man armed with an Enfield. Every man in the company is assumed to carry the standard (No. 36) British handgrenade but no other special equipment. Reference 21 contains data about these individual weapons. Additional data and comment about the company and larger-echelon units may be found in Reference 23.

2. German—The German infantry section, like its British counterpart, was based upon one fast-firing automatic weapon around which the section's tactics were built. This weapon was the infamous MG34 (the British often referred to them as "Spandau's") belt-fed light machinegun—a weapon so lethal that virtually every modern day general purpose machinegun (like the US M60) is designed directly or indirectly from it. In the game, it is the MG34 alone which is responsible for the massive German section firepower. Two men are assumed to operate it with the rest of the section being armed with the 7.92mm Mauser G98/40 rifle with the squad leader carrying an MP40 sub-machinegun, but these weapons contribute very little to the section's effectiveness with the respect to the MG34. Note that with only one man remaining in the section, a fairly impressive firepower can still be placed on a target because it is assumed that he will always pick up the MG34 and use it instead of his own weapon.

As in the case of the British, a platoon is composed of three such sections with an 8 man platoon headquarters section and a 2 man HQ group. Unlike the British platoon, however, no light mortar or anti-tank rifle was directly controlled by the German platoon, rather three light mortars and three ATR's were carried by 9 man sections as company headquarters where one additional 10 man section was included. Note also that in this, the early part of the war, the German company was composed of four and not three platoons as were the British and Italian companies. Every German soldier is assumed to carry the standard stick grenade but again, no special equipment. Reference 18 contains completed data on the organization and weapons of the German company and higher echelons.

3. Italian—The Italian infantry section differed significantly from its British and German counterparts inasmuch as it was composed of 20 men and broken into two functional groups—a light machinegun group of 9 men and a rifle group of 11 men. Two standard 6.5mm M30 Breda light machineguns plus rifles were carried by the first group and the standard 6.5mm M91 Mannlicher-Carcano by the second. Both groups were headed by an NCO who was usually armed with the excellent 9mm M38 Beretta sub-machinegun. Two sections plus an HQ group formed the platoon and three platoons, 3 headquarters sections and the company HQ group formed the company. All company personnel are assumed to carry the M35 O.T.O. "Red Devil" hand-grenade but note that neither light mortars nor anti-tank rifles are part of the company. Any of these or heavier weapons had to be attached to the company from higher echelon units. All additional data about the Italian company or higher echelon organization or weapons may be found in reference 19.

The only other *Tobruk* personnel units, the CREW's and artillery forward observers, are assumed to be armed with the appropriate standard rifle and grenades only. The CREW's are composed of one NCO gun commander and the proper number of other ranks and the F.O. is assumed to consist of one officer only.

F. Obstacle/Fortification Units

1. The entrenchment counter does not represent rows of slit trenches as may be guessed but rather an area completely covered with personal entrenchments of "hedgehogs" which all sides found to be of most value in the desert. Since the hex containing an entrenchment counter is assumed to be completely covered with hedgehogs (not enough to impede wheeled or tracked vehicular travel though), more than one personnel unit is assumed to be able to find cover in the hex and the game is played in this way.



2. The bunker/blockhouse counter represents one large fortification. The bunker itself is a covered emplacement providing full cover and firing openings to personnel inside and doesn't differ much in construction from army to army. The blockhouse, however, is a very strongly-built concrete structure which, in the Gazala battles, was only found on the Tobruk perimeter. The blockhouses had been built by the Italians as part of the strengthening of the port defenses when they were in control of Tobruk before the British offensive of 1940 which drove them out. Although good emplacements, the British found the blockhouses to be more defensive rather than an offensive nature because troops inside could not fire out in any way, and this is how they are used in the game.

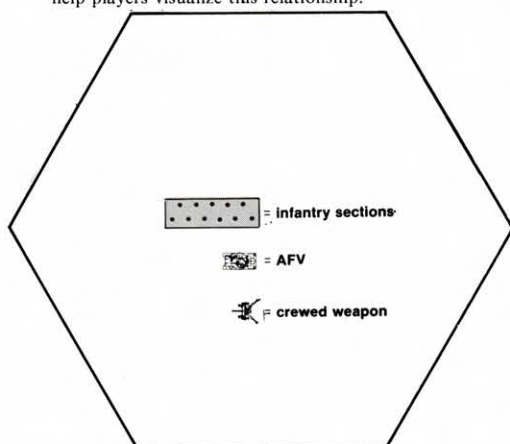
3. The weapon pit counter by definition contains one pit for a weapon to fit in and which provides suitable protection for the crew when not manning the gun.



4. The minefield counter laid by either side is assumed to contain a minefield patterned like the German 24 by 64 meter field as described in reference 18. Besides anti-tank mines, anti-personnel mines are assumed included in the field and an effective density of 4 mines per meter of front is reached in the hex. Each field, of course, is assumed to contain the standard AT or AP mine types used by the side laying the field but like with other weapons, captured mines were used by all sides extensively. The operating characteristics of each type of mine do not differ from one another enough to justify differentiating the fields or their effectiveness.

5. The anti-tank trench counter is assumed to be completely cut across by the trench which is between 6 and 8 feet deep with reinforced walls and sometimes covered by boards. The trench hex is assumed to contain hedgehogs and the trench itself could obviously be used for cover.

All of the above units as well as those previously described should be thought of in terms of how large they were in real life for proper appreciation of their use in the game. The following illustration is an outline of one board hex with one tank, infantry section, and gun shown in scale to help players visualize this relationship.



Tactics

The purpose of *Tobruk* is to introduce battlefield problems to players through the medium of an enjoyable game. In playing, players should be able to quickly learn what does and does not work in the maneuvering and firing of units, but some comments about general tactics are in order.

A. Infantry

A single big mistake in the use of a force of infantry is usually enough to end a given game where they are important. On the attack, this error can occur by attempting to approach an enemy position in strength before the enemy is pinned down by fire. On the defense, it usually happens when units forsake their cover for any reason while under fire. In general, infantry, unlike AFV's, should never be "thrown" into a situation where fire may be brought against them. They should be used very carefully and players should realize, like Rommel, that their prime use in the desert is to occupy and hold terrain and inflict casualties on the enemy when he is compelled to eradicate them (such as in Scenario 8). Except when mechanized or when no AFV's are available, infantry should never be considered as part of a strike force. When forced to participate in an attack, under no circumstances should they be allowed to move toward the enemy without some supporting fire being placed on the area being assaulted. When in position on the defense, they should stay under full cover until the enemy is close enough to be badly damaged by fire. This may sometimes mean staying under full cover for good, and forcing the enemy to literally jump in the trench to get them out through melee. Properly used, infantry units may be very expensive to destroy.

B. Armored fighting vehicles

Rommel, as usual, sums up best the value of armor in the desert when he writes (reference 24):

"The armor is the core of the motorized army. Everything turns on it, and other formations are mere auxiliaries."

In the game three key tactical points on the use of armor are most notable. Very simply, they are:

—never offer enemy armor-piercing weapons a flank or rear shot except when there is no other alternative;

—never discount the threat of any enemy unit but engage the most threatening first and stay on it until desired damage is achieved, and

—never move for any reason other than for self protection or to establish a better firing position.

These three points apply equally well to armored vehicles on the defense or the attack. On the attack, armor, like infantry, should be supported by fire on the objective where possible. Enemy anti-tank guns should be constantly engaged by machineguns on the approach and finished off with direct fire as soon as possible. Enemy tanks should be outmaneuvered and the prized flank or rear shot position against them achieved. Undoubtedly the worst approach tactic to be used against either ATG's or tanks is the direct approach with no fire on the enemy because, in general, any weapon can sooner or later at least immobilize any AFV. On the defense the best tactic as just described is that of remaining stationary, selecting the most lucrative targets one by one, and once firing on each has begun, not stopping until the target has been neutralized. Wherever possible the enormous advantage of taking partial cover in a weapon pit should be exploited. Friendly infantry should be positioned with or around dug in tanks to prohibit the approach of enemy infantry and the positioning of the tanks themselves should be such that outflanking is difficult. When properly positioned and protected, AFV's in weapon pits probably represent the most formidable obstacle to any enemy advance.

C. Artillery

The use of offboard artillery in the scenarios of *Tobruk* should be in the role of direct support of the maneuver units on the board. What this means is that players would best use artillery available for the purpose of helping units achieve specific tasks, rather than use it as just another available weapon for destruction of enemy targets. The best example of this is in the use of artillery to blind enemy positions with smoke thus aiding in the approach of units toward the area being blinded. Artillery definitely may be used for destruction of enemy units on the board, of course, but the most vulnerable enemy targets, personnel in the open and masses of soft vehicles, rarely appear in any *Tobruk* scenario. Note that no provision has been

made in the game for the use of the heavy (above 150mm) artillery, which was in the armies of both sides during the Gazala Battles. This is because, except in Scenarios 2, 5, 8 and 9, the heavy artillery of both sides was unavailable for use due to the fluid state of the engagements. Also, as in the case of the Stuka, no really suitable targets for large-caliber fire existed on either side in the Gazala area. The weapons were used when available, of course, but for typical desert targets field and medium pieces were suitable.

In general, three missions are possible for the use of artillery batteries in the game. They are:

—Destruction missions—where HE fires are brought onto point targets for the purpose of destroying them through direct hits;

—Neutralization missions—where HE fires are brought onto area (personnel or soft vehicles in the open) targets for the purpose of inflicting casualties through fragmentation and;

—Harassment missions—where smoke or HE fires are brought onto any target for the purpose of blinding it, forcing it to button up, forcing it to seek cover or forcing it to move.

Due to the highly mobile nature of most of the game scenarios and the limitations of artillery (long adjustment times, poor direct hit probabilities with respect to direct-fire weapons, limited shifting of fires for effect) most of the artillery fire missions seen on the board will probably be for harassment.

As in the case of direct fire, once any mission is commenced against a target, it is extremely bad tactics to cease fire before the desired result of the mission is achieved.

Comments and Game Deficiencies

Tobruk, like any other game, had to be built within many limitations imposed by the fact that reality can't ever be perfectly modeled. In the case of this game, however, additional constraints arose because of the complexity of the methodologies used for describing combat results. The effect of this was very simply that many vehicles and weapons used by both sides in the actual Gazala Battles were not included in the game. These included the light tanks, armored cars, and early model medium tanks used by both sides and a weird assortment of non-standard vehicles and weapons used by the Germans who were very adept at putting anything of marginal value to use. Without a doubt, however, the inclusion of these extra pieces would have contributed little to the game and would have caused a great deal of extra complexity.

A little problem arose in the research for *Tobruk* when it was found that little data was available on British, German, or especially Italian small unit tactical doctrine. This showed up particularly in the areas of infantry-tank and infantry-artillery coordination. Where and how FO's, for example, were attached and what their procedures were was unknown, and so approximations based on U.S. Army doctrine were implemented and were probably within reason. This same approximation was used wherever other needed data was unavailable, but since all armies generally operate in the same way in combat, the modelling of unknowns around U.S. procedures is probably pretty accurate.

As mentioned before, as much emphasis as possible was placed in the game on the simulation of weapon effects. In some cases, however, such as in the case of determining methodologies for resolving the problems of morale, scientific data was completely absent and educated guesses had to be made. This subjective way of resolving these difficulties is obviously not perfect, but it was the best solution at hand especially in view of the fact that research into any area has its limits which must be recognized. In the design of *Tobruk*, these limits were often reached and the resulting game rule or procedure is therefore probably not near to perfect. Hopefully, though, no part of the *Tobruk* architecture is designed in an unrealistic or unreasonable way.

the three 250/1's by the British player in the same section. Recovery units enter the section anywhere along one edge—each player rolling one die to determine which. A roll of 1 indicates north, 2 south, 3 east, 4 west, 5 or 6 are rolled again. Germans move first.

Special—Enemy vehicles demolished or completely hooked up for towing or being towed at the end of the game may be claimed as K-kills or captures respectively. Friendly vehicles not hooked up, with no undamaged friendly or undamaged enemy units in the same hex, may be claimed by the enemy at the end of the Firefight as M-kills. Any infantry unit may demolish an enemy vehicle simply by being alone in a hex with it for one turn without moving or firing. As in Firefight F, night conditions are assumed to be in effect. Any damage inflicted on enemy units during the game through combat accumulates points also.

FIREFIGHT H—'BLIND APPROACH'

In the desert, minefields were almost always marked by being encircled by one strand of barbed wire. At night, however, these markings could and often were missed with very bad results. This Firefight simulates a platoon assault upon a reinforced section strong point at night, which causes the mines to be hidden from view:

British—All 'First Platoon' units
Light Truck x5

Germans—'1/1' infantry section
MG34 MG x1
hedgehog x4
minefields x8
Weapon pit x1

Set Up—Germans set up anywhere in one section with British entering anywhere along the south edge of the same section. British move first.

Special—All night rules as in Firefight F are in effect. Germans may place minefield counters on board or may secretly record the location of as many as three minefield hexes. British must dismount at least four hexes from the nearest German unit as in Firefight F.

FIREFIGHT I—'MUTUAL BOMBARDMENT'

In the desert, opposing troops would sometimes be stalemated. Sudden, massive, buildups of artillery fire would then occur:

British—All 'First Platoon' units
hedgehog x10
bunkers x4
weapon pits x2
minefield x6
2" mortar x3
3" mortars x2

Offboard: TWO 25 pdr. batteries;
TWO 4.5" batteries

Germans—All 'First Platoon' units
hedgehog x10
bunkers x2
weapon pits x3
minefield x6
50mm mortar x2
81mm mortars x3

Offboard: THREE 105mm howitzer batteries

Set Up—Both sides set up all units on one section, no more than 10 hexes apart. Germans set up first. British move first.

Special—Remember—all possible rules apply including smoke shells at mutual player consent. The purpose of this Firefight is to determine which side can best use indirect fire, although an assault by one side or the other is possible. No points are directly scored for counter-battery fires.

FIREFIGHT J—'BATTERY OVERRUN'

An artillery battery in the rear areas caught while deployed by an enemy armored breakthrough was in deep trouble. It could choose to hook up and retreat under fire, which was almost never successful, or it could stand in place and try to beat off the attack with armor-piercing ammunition:

British—25 pdrs. x2
75mm(f) x2 (treat as 25 pdrs.)
Quads x2
Medium Trucks x2 (treat as Quads)
All 'First Platoon' units except section '1/3'

Germans—Pzkw IIIh x10

Set Up—British set up anywhere in section B. Germans enter anywhere on south edge of section B; move first.

Special—British artillery must not be hooked up or in process of hookup at start. Vehicles must be at least one hex away from weapon units. British score 3 points for every undamaged Pzkw IIIh which has not exited the board section along its north edge by the end of the game.

FREE FORM SCENARIOS

Obviously many fictitious engagements may be constructed by players. When this is done, it is suggested that the Firefight Victory Point Table be used to evaluate their outcomes. Some general guidelines about each of the belligerents at Gazala are listed below and should be followed if possible inasmuch as they were true for most of this phase of the desert war.

British:

—Armor was rarely committed in less than one troop (3 tanks) strength.

—Tanks were often used without support.

—Armored units were expected to charge enemy positions wherever possible.

—Armored units were often composed of different kinds of tanks.

—Specialized battlegroups were almost never created.

—Infantry was usually without transport when in position. Carriers, however, were almost always available.

—Artillery support was available in units as small as one battery (called "troop" by British) when available at all. The 25-pounder, 4.5", and 155mm weapons were usually used together.

German:
—Armor was rarely committed in less than one platoon (5 tanks) strength.

—Tanks were almost never used alone, mechanized infantry being the preferred companion.

—Tank units avoided hard points of resistance and relied upon artillery to neutralize them.

—Tank units were usually equipped with the same vehicle type.

—Special combined arms units were often constructed around key weapons such as 88mm FLAK and Pzkw IIIj Specials.

—Infantry was rarely without immediate transport available; trucks or APC's.

—Artillery support was more often available than in the case of the British and usually in at least three batteries in strength. The 105mm howitzers and 150mm howitzers were usually available to any attack or defense with 105mm guns, 150mm guns and captured 25 pounder batteries reserved for special fire requests.

Italian:

—Armor was rarely committed in less than one platoon (5 tanks) strength.

—Tank units were often committed unsupported.

—Tank units rarely charged enemy positions of any kind.

Tank units usually were equipped with the same vehicle type.

—Infantry was almost always without transport.

—Artillery support of any kind was available only to the most organized attacks or defenses. When available, units as small as one battery could provide support. When available at all, both 105 howitzers and 149mm guns were used together.

VICTORY POINT TABLE:

Unit Type	K-kill (vehicles) or destruction (personnel)	M- or F-kill	Capture/ Surrender (Not F- killed)
British			
Stuart	12	4	12
Crusader (and CS)	14	4	16
Grant	24	5	30
Valentine	20	4	22
Matilda	20	4	22
Carrier	4	2	8
Quad	3	2	6
ACV	4	2	8
Light Truck	2	1	4
2" Mortar	—	3	5
3" Mortar	—	6	10
Vickers MG	—	6	8
Boys ATR	—	2	4
2 pdr. ATG	—	5	10
Bofors AA	—	7	14
6 pdr. ATG	—	7	16
75mm (F) ATG	—	5	12
25 pdr. Artillery	—	8	16
FO	3	—	3
HQ group	2	—	2
Infantry section	5	—	3
CREW	3	—	2
German			
Pzkw IIIh	20	3	20
Pzkw IIIj	28	3	35
Pzkw IVe	14	3	14
Marder	16	3	16
251/1	6	2	6
250/1	4	2	4
Sd. Kfz. 7	3	2	3
Stuka	10	—	—
Staff Car	2	1	2
Light Truck	2	1	2
Medium Truck	3	2	3
50mm Mortar	—	3	4
81mm Mortar	—	7	9
MG34 MG	—	4	5
7.92mm ATR	—	2	4
28/20 PAK	—	5	15
50mm PAK	—	7	15
75mm LIG	—	7	12
88mm FLAK	—	10	24
FO	4	—	4
HQ group	2	—	2
Infantry section	6	—	4
CREW	4	—	3
Italian			
M13/40	12	4	12
Semovente	10	4	10
45mm Mortar	—	2	3
81mm Mortar	—	9	11
Breda 37 MG	—	4	6
20mm Breda	—	5	10
47mm ATG	—	6	12
FO	2	—	2
HQ group	2	—	2
Rifle group	3	—	2
LMG group	4	—	2
CREW	3	—	2

Bulge 1940

by Joseph A. Angiolillo, Jr.

Joseph Angiolillo is a familiar name to wargamers who still remember the dark days of wargaming back in 1965-67 when the only alternatives to the GENERAL were spirit master club magazines. One of these, Tactics & Variants, was widely read by the hard corps of that era. Joe, returning to wargames from a vacation of women and higher education, was one of its very best contributors. Joe and his Connecticut cronies wasted no time in regaining top-notch form—taking 1st place honors in three of the 1973 summer conventions.

The game presented here was playtested 7 times at those cons and received widespread commendation—many asking to photocopy the OB for their own use. Basically, what Joe has done is to take advantage of the fact that the Ardennes was the scene of two battles—not just one—and is adapting a portion of the France, 1940 situation into a scenario utilizing the Bulge mapboard and rules. The net effect is a new game showing you what could have happened had France '40 been designed along earlier lines and on a different scale.

There has always been interest in World War II amongst wargamers. Of the 26 wargame titles published by Avalon Hill 14 have been about a World War II campaign or battle. Naturally, certain armies, campaigns, nationalities, and even regions of the world seem more interesting than others. Certain generals possess more charisma than others; certain armies possess better tactics and doctrine than others; certain areas of the world are more challenging than others.

One of the most interesting areas in Europe is the Ardennes forest in Belgium. Not one, but two important World War II battles took place over this green, forested, hilly, New England-type terrain. In May, 1940 the Germans smashed French and Belgian defense positions during the Sedan breakthrough. They raced to the Channel surrounding the Northern Allied Armies. As a result, France fell; Belgium fell; the Netherlands fell; and Britain escaped by the skin of her teeth at Dunkirk.

In 1944 the Germans attempted to destroy the Americans in the same way. The result was the Battle of the Bulge. There are many reasons why the Germans failed in their objective of Antwerp in 1944: loss of air superiority; loss of fuel; loss of mobile superiority; loss of firepower; loss of a veteran regular army. These are only a few reasons. But the reasons the Germans failed in 1944 and did not fail in 1940 is the topic for another article.

Needless to say, Avalon Hill capitalized on public interest in the Ardennes. *Battle of the Bulge* and *France 1940* are both excellent games about the Ardennes. *Bulge* is probably more popular and playable. I prefer *Bulge* to *France 1940*, but many wargamers are of the opposite opinion.

Bulge is a regimental level, advance after combat, game which emphasizes playability and balance. Many articles have been written on the historical inaccuracies in order of battle of the armies and terrain features on the mapboard. In spite of these criticisms, *Bulge* has not lost its popularity. (See the numerous popularity polls published in *Strategy and Tactics* magazine.)

France 1940, on the other hand, is more oriented toward historical simulation. It is a divisional and corps level double impulse game with numerous "what if" scenarios built in. Since the French actually lost in 1940 and the game emphasizes historical simulation, the French are the underdogs before the first die is cast.

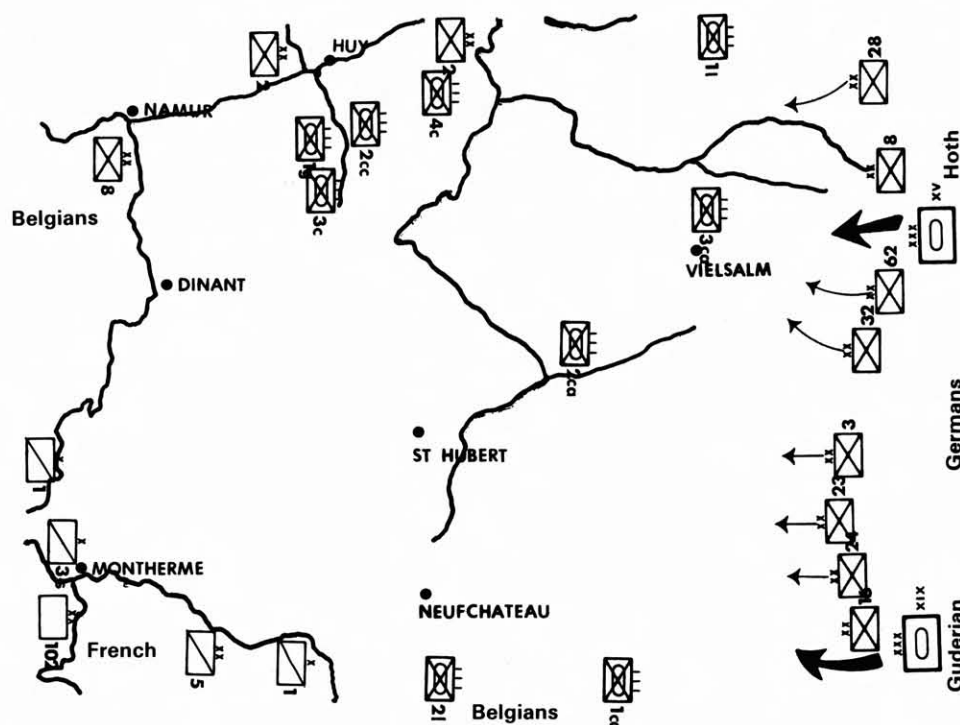


Diagram I

Situation: Morning of May 10th

France 1940 and *Battle of the Bulge* offer endless possibilities to game designers. Variants have been designed for *Bulge* and scenarios are included in the *France 1940* rules. Little work has been done, however, on designing a scenario for *Bulge*.

SEDAN BREAKTHROUGH SCENARIO

What is the difference? Isn't a scenario the same thing as a variant? Or is there a difference? Let's look at some definitions.

A variant changes game mechanics. A designer could vary the order of battle, the combat factors and combat system, the terrain, the CRT and even the rules. But he does not touch the title! *Battle of the Bulge* variants are always about the Battle of the Bulge.

A scenario is just the opposite. The game design is kept intact and another situation is played on the same mapboard. Only minor rule variations are made due to the nature of the campaign. Changes are normally made in the units because the designer is dealing with a different battle.

In designing a Sedan Breakthrough scenario for *Battle of the Bulge* a designer should first analyze the campaign. He should then study the composition of the forces involved and when they arrived. Their combat factors and movement factors must conform to the original designer's specifications. In *Battle of the Bulge*, divisional artillery is allocated to the combat regiments and air superiority is included as TAC factors and/or SAC attacks. Naturally, the final touches are added during playtesting. Playability and balance are added during this stage.

MAY 10, 1940

World War II began with a bang. Poland fell in one month while the French skirmished with the Germans along the West Wall. The French called this demonstration the Saar Offensive. If it were properly executed Germany's military defense system could have been severely damaged. Germany had only 40 weak divisions facing the French (12 wave I infantry divisions, 9 wave II infantry divisions, 11 wave III infantry divisions, and 8 wave IV infantry divisions). France had 70 divisions on her eastern border (3 light mechanized, 3 cavalry, 7

active motorized infantry divisions, 21 active infantry divisions, 8 mountain divisions, 12 A reserve infantry divisions, and 11 B reserve infantry divisions). Admittedly a few divisions faced Italy, but most of France's firepower faced Germany.

During the winter the situation reversed. Germany gained the upper hand. Veteran divisions from the Polish campaign moved to the West Wall. Germany created numerous reserve divisions, expanded other formations, and increased her armored force by transforming four light divisions into panzer divisions. In the meantime, the French did little to improve their situation. The BEF arrived and a few new French divisions were created, but the Allies did not learn the lesson of the Polish Campaign. Combined arms could be a staggering offensive weapon. The Allies held onto their World War I ideas and stayed on the defensive.

During this period, called the "Phony War" by historians, Germany improved her situation in the West to such a degree that she had more divisions on the field than the combined armies of Britain, France, Belgium, and The Netherlands. Tactically, and in terms of experience, doctrine, and firepower the German divisions were much superior to their Allied counterparts.

When the Germans finally did attack they launched their offensive utilizing mass, mobility and surprise. In addition, the Germans out-generated the Allies by attacking where it was least expected, in the Ardennes.

Heinz Guderian, veteran panzertruppe commander of the Polish campaign commanded the XIX corps (1st, 2nd, 10th Panzer divisions and the Grossdeutschland Motorized Infantry regiment). Hoth commanded the XV corps (5th and 7th Panzer divisions). They were followed by numerous infantry formations, including 3 motorized infantry divisions.

Of the divisional commanders undoubtedly the most talented was Irwin Rommel, commander of the 7th Panzer division. He would become most famous for his role in the African Campaign, but even in the Ardennes he exhibited exceptional talents. His division was the first to cross the Meuse at Dinant. And he faced the only real counteroffensive.

sive that was launched by the French along the Meuse.

ARDENNES: MAY 10

In the morning Rommel's 7th Panzer division crossed the Luxembourg frontier and engaged the first Belgian units at Montleban. The 3rd Chasseurs Ardennais was wiped out and Chabreleix was in Rommel's hands by the end of the day.

On the left, in Guderian's front, the 1st Panzer skirmished with the 1st Chasseurs Ardennais at Martelange while the 10th Panzer drove the 2nd Cavalry back to Jamoigne.

The French reacted by advancing their cavalry to the Marche-Neufchateau line. Unfortunately, they could proceed no further. The Belgians had booby trapped the roads with demolitions. They expected to slow down the Germans but only delayed French reinforcements.

In the North the French 4th and 1st Cavalry divisions reached Marche and the L'Homme line by evening. They deployed along the Ourthe River, expecting to gain time for the advancing French infantry. Behind this screen the French 9th and 1st Armies raced to the Meuse. The French 5th Motorized Infantry division would have no trouble

getting into position, but the foot troops would have to force march to arrive on time.

Gamelin held back his most powerful reserves. They were either too far north with the BEF or not yet committed.

ARDENNES: MAY 11































On the 11th Rommel's Reconnaissance battalion crossed the Ourthe in the morning encountering resistance from French cavalry at Marche. Before assaulting the position, Rommel awaited news from the 5th Panzer. A few hours later it reached Hotton and attacked the 4th French Cavalry division.

Guderian's forces rapidly advanced along the Neufchateau road. Aided by numerous stuka attacks, Guderian's Panzers decimated the 5th French Cavalry division at Neufchateau and Libramont.

Responding to the rapid German advance, other French Cavalry formations destroyed bridges and set up road blocks in the Sedan area. But this strategy was not delaying the Germans at all. In desperation the French fell back to a line east of Longwy. Ninth army sent in its reserves to stiffen the line. Possibly this new position would hold.

ARDENNES: MAY 12

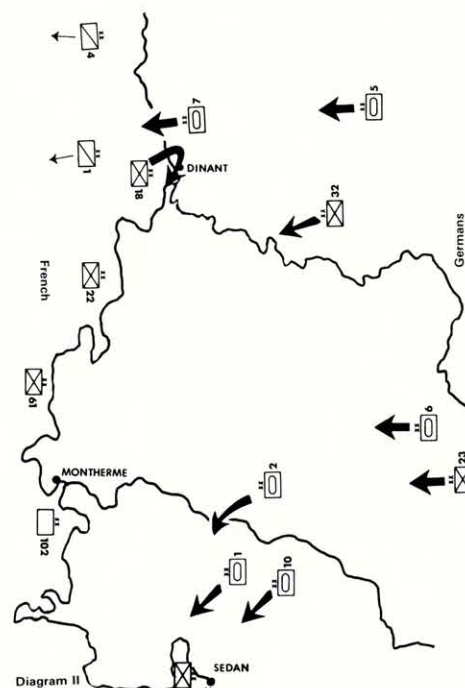
In the north Rommel was ahead of schedule. His pursuance of the French 1st Cavalry division brought him to Dinant by nightfall. Leading elements of the 5th Panzer division were transferred to Rommel but the main body was far behind. After dusk reconnaissance groups probed the Meuse, looking for an opening. Hopefully the quick advance would force a gap in the French line.

GERMAN DIVISIONS — ESTABLISHED STRENGTHS			
DIVISION	WEAPONS	COMMENTS	STRENGTH
 1	30pzl, 100pzII, 90pzIII, 56pzIV, 56ac 263lmg, 57mg, 30lm, 24mm, 65atg, 10lfg, 27mfg, 12hfg		32 ²⁶
 2	30pzl, 100pzII, 90pzIII, 56pzIV, 56ac 263lmg, 49mg, 30lm, 18mm, 65atg, 10lfg, 27mfg, 12hfg		32 ²⁶
 5	140pzl, 110pzII, 50pzIII, 24pzIV, 56ac 357lmg, 60mg, 39lm, 18mm, 65atg, 18lfg, 27mfg, 12hfg		29 ²⁴
 6	10pzl, 40pzII, 36pzIII, 132pz35t, 56ac 334lmg, 61mg, 39lm, 18mm, 65atg, 12lfg, 27mfg, 12hfg		28 ²⁴
 7	10pzl, 40pzII, 36pzIII, 132pz38t, 56ac 395lmg, 60mg, 45lm, 24mm, 68atg, 12lfg, 27mfg, 12hfg		28 ²⁴
 8	10pzl, 40pzII, 36pzIII, 132pz38t, 56ac 359lmg, 60mg, 39lm, 18mm, 65atg, 10lfg, 27mfg, 12hfg		28 ²⁴
 10	30pzl, 100pzII, 90pzIII, 56pzIV, 56ac 215lmg, 44mg, 27lm, 18mm, 65atg, 18lfg, 27mfg, 12hfg		32 ²⁶
 2  13	121lmg, 50mg, 27lm, 24mm, 12latg, 36atg, 16lfg, 24mfg, 8hfg, 24ac		17 ¹⁵
 29			
 3  5	290lmg, 124mg, 75lm, 18mm, 12latg, 72atg, 41fg, 36mfg, 12hfg	78% active, 12% reservel, 6% reservell, 4% landwehr	25 ²²
 9  12			
 16  21  23			
 24  25  27			
 32	317lmg, 124mg, 75lm, 18mm, 12latg, 72atg, 4lfg, 36mfg, 12hfg	78% active, 12% reservel, 6% reservell, 4% landwehr	25 ²²
 8  28	308lmg, 128mg, 78lm, 18mm, 12latg, 75atg, 6lfg, 36mfg, 12hfg	78% active, 12% reservel, 6% reservell, 4% landwehr	26 ²³
 62  87	269lmg, 106mg, 72lm, 12latg, 36atg, 36mfg, 12hfg	6% active, 83% reservel, 6% reservell, 3% landwehr	24 ²¹
 211	269lmg, 106mg, 72lm, 12latg, 36atg, 36mfg, 12hfg	mg's were obsolete WWI models; 12% reservel, 46% reservell, 42% landwehr	14 ¹²
 251  263	269lmg, 106mg, 72lm, 12latg, 36atg, 36mfg, 12hfg	mg's were obsolete WWI models; 9% active, 21% reservel, 46% reservell, 24% landwehr	18 ¹⁶
 267			
 1	290lmg, 124mg, 75lm, 18mm, 12latg, 40lfg, 12mfg		11 ¹⁰

KEY

lmg—light machineguns, mg—machineguns, lm—light mortars, mm—medium mortars, latg—light anti-tank guns, atg—anti-tank guns, lfg—light field guns, mfg—medium field guns, hfg—heavy field guns, ac—armored cars, pzl—panzer I tanks, pzII—panzer II tanks, pzIII—panzer III tanks, pzIV—panzer tanks, pz35t—panzer 35t tanks, pz38t—panzer 38t tanks, amd—amd armored cars, amr—amr armored cars, h39—hotchkiss 35 or 39 tanks, s35—somua 35 tanks, b1—b 1 heavy tanks, m/hfg—medium or heavy field guns.

Strength: large number—full strength combat factor; small number—estimated strength for the campaign; small parenthesis number beside the division—adjusted combat strength due to campaign performance.



Situation May 12th

In the south Guderian got lucky. The French 3rd Spahis brigade missed its assignment and left the Mouvais ford undefended. The 1st Panzer division took advantage of the error and flanked the French 5th Cavalry division, compelling it to retreat to the forts on the frontier. By noon Germans were in St. Menges, only a few miles from Sedan. An advancing French Infantry regiment was scattered and then smashed by German Panzers. Only 300 men made it to the French lines that night.

The French reacted with stopgap measures. By noon the Ninth Army HQ was in alarm. General Georges at GHQ was asked to send another division for support. The line against Guderian would not hold. Finally he sent the 3rd Armored division and the 3rd Motorized Infantry division to the front.

Near Dinant the French sappers blew the Meuse bridges. Allied signals were crossed. The Belgians didn't bring all the barges and boats across the river. They assumed the French would. And the French failed to fortify the Meuse. They assumed the Belgians would. In the meantime French Infantry was still marching to garrison the Meuse River.

THE MEUSE: MAY 13

In the Dinant area elements of Rommel's division crossed the Meuse in rubber boats but were ambushed by French Infantry hiding in the bushes. Rommel quickly brought up his heaviest tanks for covering fire and the bridgehead held. Luckily for Rommel the left bank of the Meuse rises several hundred feet above the river and French gunners could not see the approaching Germans.

This terrain is not included on the *Bulge* board but from Dinant northward the Meuse is only penetrable in a few isolated regions. Under cover of the cliffs Rommel built a heavy bridge at Houx.

In Guderian's front German vehicles surprised the French at Sedan. Sporadic French barrages slowed down the Panzers but there was so little ammunition and transport that the French had to silence their guns.

In the air the Germans utilized their superiority. The Luftwaffe bombed Sedan causing the city to catch fire. The air force also hit the French reserves in the rear areas delaying their arrival. Later it launched a massive attack against the Meuse with bombers and dive bombers covering German infantry crossing the Meuse (elements of the 1st Panzer and GD Motorized Infantry regiment).

The French 9th Army HQ was staggered by the news of Germans crossing the Meuse at Dinant. It ordered the 129th Regiment to counterattack. The Regiment was ripped to pieces by German bombers. Later 9th Army dispatched Hotchkiss tanks to crush Rommel's weak bridgehead. The 5th Motorized, ordered to support the attack, was not ready. The Hotchkiss squadrons attacked, but without infantry support they could not hold the territory they gained.

Against Guderian, 9th Army ordered two infantry regiments, two tank battalions, and the corps artillery to counterattack. Slow assembly postponed the attack indefinitely.



















THE MEUSE: MAY 14

In both Dinant and Sedan the Germans needed infantry support. It quickly arrived in the form of motorized and regular infantry divisions. Now the Germans could widen their breakthrough and head for the Channel. Guderian wheeled westward with the 1st and 2nd Panzer divisions, capturing bridges all along the river. In the north German infantry crashed through the defenses of the French 22nd Infantry division and the Panzers streamed forward.

There were only a few resources left to the French. In the north the 4th North African and advancing 1st Armored divisions were thrown in as stopgap measures but half the tanks were out of gas. The units arrived piecemeal which further weakened their holding and attacking powers.

In the Sedan area the 3rd Armored and part of the 3rd Motorized division were ordered to attack. Most of the tanks had already dispersed amongst the infantry. The attack was next to useless.

FRENCH DIVISIONS – ESTABLISHED STRENGTHS

DIVISION	WEAPONS	STRENGTH
 2	60amr, 87h39, 87s35, 40amd, 24latg, 172lmg, 48mg, 9lm, 12mm, 24lfg, 12mfg	19
 1	90h39, 66b1, 5amd, 12latg, 12atg, 56lmg, 12mg, 3lm, 4mm, 35mfg	26 ⁽²⁴⁾
 3	77h39, 66b1, 5amd, 12latg, 12atg, 56lmg, 12mg, 3lm, 4mm, 24mfg	21
 1  2	22amr, 22h39, 14amd, 8latg, 8atg, 176lmg, 36mg, 10lm, 8mm, 12lfg, 12mfg†	8
 4  5		
 3 ⁽⁶⁾  5	22amr, 13h39, 22amd, 52latg, 148lmg, 154mg, 36lfg, 12m/hfg, 12hfg	18
 4NA  5NA ⁽¹³⁾	140lmg, 154mg, 52latg, 36lfg, 12mfg, 12hfg	17
 14 ⁽⁵⁾  18		16
 22  53 ⁽¹⁾		
 55 ⁽¹³⁾  61		
 102	72mg, 36mm, 36latg, 36lfg, 12mfg, 12hfg	16

THE 1940 BULGE SCENARIO

Using the *Bulge* board, rules, and CRT you only need new units and a few rule modifications to recreate the 1940 situation in the Ardennes.

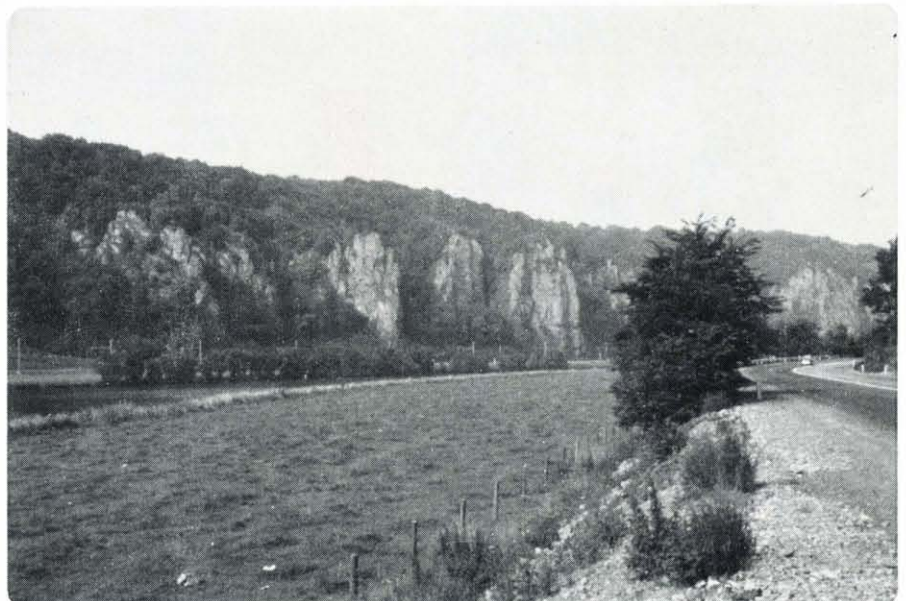
Based on analysis of the campaign, three things would have hurt the German chances to surround the Northern Allied Armies: either a slow breakthrough, too small of a breakthrough, or too many losses in motorized troops. As a result the following victory conditions are utilized for the scenario:

To win the game the Germans must meet all three of the following victory conditions. Any other result is an Allied victory. 1) Hold any two of the cities; Namur, Dinant, and Sedan at the end of the game (turn 10) with an uncut route along the road to the east edge of the board. (No Allied unit can have a zone of control along the route traced by the Germans.) For purposes of attacking Sedan, the

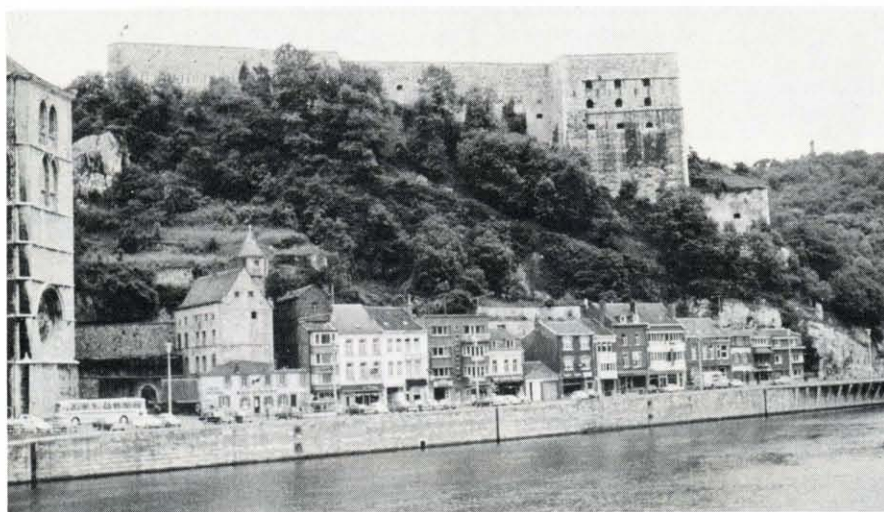
Germans may use the two adjacent partial hexagons. 2) Exit 70 mechanized factors off the west and/or south edge of the board (A through I inclusive). 3) Lose no more than 25 mechanized factors during the game. The game lasts 10 turns.

Other rule modifications based on analysis of the campaign include surprise, movement bonus, and air superiority. Thus, Allied units have restricted movement on the first turn. Because of the surprise and time for orders to come down from headquarters, only Belgian motorized units may move on turn 1 and only at a rate of 3 movement points. All other Allied units may not move on the first turn.

Infantry and artillery only double their movement on roads. Cavalry triple their movement. Mechanized forces move five times as fast on roads.



The left bank of the Meuse is protected by cliffs hundreds of feet high.



This fortress at Namur might well have been a tough nut to crack.

ALLIED ORDER OF APPEARANCE											
3-3	3-3	1-3	1-5	1-5	1-5	1-5	1-5	1-5	1-5	20-0	NAMUR
W14	F28	O19	S21	W46	U21	HH10	V19	X17			
BELGIANS											
1-5	1-5	1-5								1-3	1-3
BB43	DD25	KK17	G28	I26	E26	I23				O49	C50
FRENCH											
7-3	1-5	7-3	1-5	1-0	1-0	10-3	1-0	11-3	9-3		
B45	J50	B51	B53	C54				SEDAN			
10 PM											
1-5	1-5	4-3	12-5	4-5	4-5						
south I to FF	39	48 to 50	west 26 to 30								
11 AM											
4-3	2-5	6-5									
39 to 48	36 to 39										
11 PM											
4-3	7-3	7-3	4-3								
south I to FF	39	39 to 48									
12 AM											
5-3											
39 to 48											
13 AM											
5-3											
39 to 48											
13 PM											
2-5											
west 30											
14 AM											
6-3	6-3										
SEDAN	36 to 39										
14 PM											
6-4	10-4	6-5	7-4	10-5	4-3	6-3	8-3				
south A to I											

The Germans have 32 TAC factors for the entire game. The Allies have 2 TAC factors. In addition the German medium bombers can immobilize up to 7 Allied mechanized units at the rate of 1 per turn after the first turn. Allied mechanized units can only be immobilized in clear terrain or river hexagons, not city, woods, or rough terrain. The immobilized units are only immobilized for 1 turn. Due to air superiority German units can attack out of supply range.

COMBAT AND MOVEMENT FACTORS

Now that we have the rule modifications, what about the combat and movement factors. Combat factors for the scenario units should be based on firepower (killing ability of weapons) and staying power (number of men in a unit and its armor). These two components were the most important considerations in small arms actions in World War II. True, you need to consider other factors such as leadership and tactical doctrine, but these can be built into the rules.

An expanded formula was developed based on a well placed machine gun as 1 factor. The following weapons would have the following factors: Pz I = 1, Pz II = 1.5, Pz III = 5, Pz IV = 7.5, Pz 38 = 3, FT 17 = 1.7, R 35 = 2, H 39 = 5, S 35 = 8, B I = 10, 25-47mm AT gun = 2, 40-50mm mortar = 1, 80mm mortar = 2, 75mm gun = 7, 88-105mm gun = 40, 150-155mm gun = 60, and stuka = 10.

Similarly movement is based on both training manuals and actual performance. Usually the movement of a unit is based on its slowest component. In mechanized forces this is often towed artillery and/or motorized infantry which takes time to deploy. Sample movement factors would be: Pz III, IV = 8, Pz 38 and S 35 = 6, Pz I, II, H 39, motorized infantry and towed artillery = 5, B I = 4, and R 35 = 3. Foot troops, even in a forced march, would move much slower.

UNIT ORGANIZATIONS

Bulge stresses uniform formations with variations found in the strengths of the mechanized forces. This fact must be included in our 1940 scenario units.

Normally, German active divisions included more heavy artillery than their French counterparts. They include 3 8-3's. French active divisions would include 3 6-3 regiments. All reserve divisions would include 3 4-3 regiments. French armor (DCR) had 10-5 and 12-4 demi-brigades. French light mechanized divisions (DLM) had a 12-5 armor brigade, 4-5 reconnaissance brigade, and a 4-5 motorized infantry regiment. A French Cavalry division (DLC) included a 7-3 Cavalry brigade and a 1-5 motorized infantry brigade. German Panzer formations varied.

But we must consider the real units, not their paper strength specifications. The French had more varied organizations than the Germans. For example, the 148th Fortress regiment was partially active and included all the artillery of the 53rd Infantry division. The 77th regiment had 4 lorried infantry battalions and all of the divisional 75's. 66th and 125th regiments each had their regular infantry component plus half the heavy artillery of the division. The 208th regiment was reinforced for attack by the 4th and 7th tank battalions. The powerful 6m regiment had half the divisional artillery.

As for the French armor it was understrength. The 3 DCR had 2 demi-brigades of armor. One had a battalion each of B 1 and H 35 tanks with no artillery. The other had the same organization plus the divisional artillery. As for the 1 DCR it also had 2 demi-brigades, one with the 28th and 37th B 1 tank battalions and the other with the 26th H 39 battalion, 5th Chasseurs-a-Pieds battalion, and all the divisional artillery.

On the German side the GD regiment was stronger than a normal motorized infantry regiment, having 4 instead of 3 infantry battalions and a similar number of artillery batteries. All of the German Panzer divisions varied. See the organization chart for more information.

HISTORICAL NOTES

Many other French units could have participated in the battle. Two regiments of the 14th Infantry division (4-3's) got lost. The 71/205 Infantry regiment (4-3) was ordered to attack with the 213th regiment but remained off the board instead. Similarly two regiments of the 3rd Motorized Infantry division (6-5's) did not attack with the rest of the division. Off the south edge of the board the French held the 71st Infantry division (3 4-3's), 3rd North African Infantry division (3 6-3's), 1st Colonial Infantry division (3 6-3's), 1 regiment of

the 55th Infantry division (4-3) and 2 regiments of the 53rd Infantry division (2 1-3's). Opposing these forces were advancing German Infantry divisions, also off the south edge of the mapboard.

Four French divisions arrived too late: 2 DCR (10-5 and 12-4 armor brigades), 9th Motorized Infantry division (3 6-5's), 4 DCR without artillery (5-4 and 2 1-3 armor regiments), all at about 18 A.M. and 1 DLM (12-5 armor brigade, 4-5 reconnaissance brigade, and 4-5 Motorized Infantry regiment) at about 19 A.M.

Actually the 2 DLM only passed through the northwest edge of the board but was included because it could have been used.

DESIGNER'S COMMENTS

Note that the scenario is fairly balanced if the French delay the Germans instead of waiting for them on the Meuse. There are plenty of delaying units and only ten game turns. If you wish you could include the later arriving French units along the west edge of the board with German victory conditions changed to: elimination of the entire Allied army. However, this type of game is not much fun for the Allied player.



GERMAN ORDER OF APPEARANCE

MAY 10:						On any hex north of grid 15 and east of UU inclusive
AT START						On any hex east of OUR RIVER between grids 16 and 29 inclusive
	NEW UNITS ARRIVE ON ANY EAST EDGE HEX					
10 PM						
11 AM						
11 PM						
12 AM						
12 PM						
13 AM						

A.H. Philosophy *Continued from Page 2*

custom made set of pressure-sensitive symbols for their own design use while 79% wanted expansion kits for *PANZER LEADER*. The latter is too good a game system to wither on the vine with one title so we will definitely be applying it to other areas in the future.

66% of you were confessed science fiction fans which should put you in good stead when *STARSHIP TROOPER* makes its debut in the spring. The testing for *TOBRUK* held up the development of the science fiction game to the point where we figured it was better to go with it as a spring release than take chances with a hasty job done in time for Christmas sales. This means that (counting the publication edition of *TOBRUK*) we will have 3 games available for fall delivery; *TOBRUK*, *CAESAR'S LEGIONS*, and a sailing warship game yet untitled. The latter will probably be the retail release for the fall. *STARSHIP TROOPER* will, in all probability, follow the same marketing path in the spring. Although we are a bit disappointed with having only 3 new titles for 1975, it does fall in line with what most of you expect from us according to the Readers Response which indicated that 79% wanted from 2-4 new mail order games per year.

Among the complaints of our most frequent critics is our refusal to permit paid advertising of other publishers games in the *GENERAL*. So we asked the readership for their opinion. 56% were opposed to any paid advertising in the magazine, so we'll continue the old policy in line with the dictates of the majority of the readers. Since the Elite Club was closed to new membership on January 1st with the termination of the Elite Club deal we have been bombarded with requests to reopen it to new membership. To recap, the Elite Club deal offered lifetime membership in the Elite Club which entitled card holders to a \$1 discount on all mail order games purchased from Avalon Hill. To join, each individual paid \$50 for a total of 6 games. We threw in the shipping charges, price overages and a year's subscription to the *GENERAL* as an added bonus. The deal was available only during 1974 to help promote the 6 game offering we made at that time. We will probably open the club to new membership this year but in fairness to last year's members, will have to keep the price at \$50 despite the fact that we are now coming out with only 3 new games. 26% indicated that they were interested in joining the Elite Club so we'll work up some kind of deal by this fall.

As expected, many of you want your cake and expect to eat it too. Despite your desire for more games, 68% indicated they wanted to run *ORIGINS II* again next year at the expense of another game. Although we won't be running it, it appears that there will be an *ORIGINS II* next year. So far three companies have volunteered to sponsor it. Hopefully, we can form some type of executive council which can vote on where to hold the national convention each year, and then support it in the same manner that *ORIGINS I* was favored with this year. At this writing *ORIGINS I* is still 10 days off but will no doubt be past history by the time you read this. We've experienced many problems that hopefully can be avoided in future national cons. Things started off with a bang when the man we had originally dealt with at JHU was fired three weeks before the con. What followed was an endless series of meetings with new management from JHU in attempts to get the same understandings recognized that had existed

A.H. PHILOSOPHY Continued on Page 26

Surface Raiders



BLITZKRIEG NAVAL POWER

By Donald Greenwood

A long dormant interest in Blitzkrieg was reawakened in our editor during his recent playtest efforts of the new Blitzkrieg rules just released. Although those rules include a very playable set of "Naval Ascendancy" rules to improve the naval role in the game they, of necessity, lack the nitty-gritty complexity brought in by actual ship counters, etc. This then, is the goal of this article—to provide an official variant for actual naval conflict to coincide with the new Blitzkrieg rules.

Few games have the scope and versatility that the new *Blitzkrieg* enjoys with the revised rules. In an effort to complete that overall picture we are offering this naval variant complete with accompanying naval counters on the RR page to provide *Blitzkrieg* aficionados with the final word on their updated game. Many of the factors built into this variant will seem more logical in retrospect when you've gotten your copy of the new rules as only a few of the existing changes will be mentioned herein.

As *Blitzkrieg* is based on a loose model of the Second World War in Europe we will similarly base our variant on the respective forces of Germany and Britain-France both for historical flavoring and to avoid the blase feel of identical forces.

PORT CAPACITY

All ports will have a physical capacity of 4 naval counters per city hex with water frontage. This is in addition to normal ground and air stacking limits. Stacking at sea is unlimited. In addition, both countries have major naval bases with an unlimited naval stacking limit and repair capabilities. Only major naval bases can undertake repairs of damaged vessels. Blue's bases are I33, L19, and D7. The lone Red naval base is RRR-54. In addition, the new *Blitzkrieg* rules call for the inclusion of inland ports. These have been designated as JJJ-56, VV-25, D-31 and L-19. Enemy vessels may not navigate rivers. Ports and bases which have been strategically bombed via the new BBT Tables cannot attempt repairs nor may ships therein leave port during the turn of the bombing's effects.

MOVEMENT:

Movement is conducted in the same manner as Naval Transport with each vessel able to move one sea zone per turn in either direction. Vessels which leave port must stay in the same sea zone as the port is located in during their turn of exit. Ships may stay at sea indefinitely as at-sea refueling and provisions stops are assumed to take place during the time span of the turn. No ship may remain in a sea zone which does not include a friendly port longer than 2 turns in succession. Ships at sea are simply placed in any ocean hex of the sea zone in question with care taken not to place them adjacent to a coastal hex lest they be confused with a short bombardment or invasion mission. Care should also be taken in the stacking of units. All units stacked together in a hex are considered a single fleet and separate stacks, even though they may be adjacent on the board, are attacked separately should battle result. Thus, if Blue has 3 stacks at sea in Zone C, each must be separately located before it can be attacked by the enemy.

Naval movement also involves separate area differentiation within the Sea Zones. Each Sea Zone is subdivided into 4 different areas or layers identified by their distance from shore. For

practicality we'll call them zones A, B, C and D; A being the closest and consisting of the immediate water hexes surrounding the land mass, and D being the largest and representing the outer limits of the ocean expanse. Each fleet is secretly placed on a blank counter or card representing area A, B, C, or D. This area indicator can be changed every turn to any of the 4 areas regardless of changes made in Sea Zones. A good system of area differentiation is to use a standard deck of cards. Remove all face cards and use these 12 cards as your area indicators, utilizing a second deck if necessary. All Clubs would be Area A, Diamonds Area B, Hearts Area C, and Spades Area D. This system is especially convenient if you have a deck of miniature novelty cards 1" in length, selling in most novelty shops for approximately 25¢. The remainder of the deck will serve as your Base 10 random number indicator.

Ships at sea may change stacks, zones and areas every turn they are at sea. Unlike land movement, naval moves are simultaneous and are resolved before any land or air moves take place.

ENCOUNTER:

Naval battles may occur only if vessels of opposing sides occupy the same area of the same zone and a check of the Encounter Chart reveals a 'contact' has been made. Either side may call out the areas in which it has vessels immediately after movement in hopes of being able to check the Encounter Chart. Neither side is required to do so. Should players find they do have forces in the same area—either or both may attempt to force a contact on the Encounter Chart. The Encounter Chart is resolved by a drawing of 1 of the 40 remaining cards from our deck. If the card drawn lies within the range found on the Encounter Chart players proceed to Battle Procedure.

ENCOUNTER CHART

ZONE	CARD DRAWN
♣ A	1-7
♦ B	1-5
♥ C	1-3
♠ D	1

The percentage of a chance engagement increases the closer one gets to shore due to the increased activities of land-based observation craft, shore watchers, and the lessened chances for evasive maneuvers plus the sheer expanse of the outer regions.

ENCOUNTER CHART INFLUENCES ADD TO CARD DRAWN IF:

+2	Search force includes a carrier
+1	Search force includes a cruiser*
+1	Search force is land-based a/c
-1	Search force is composed of submarines
-3	Target force is composed of submarines
+1	Target force is composed of transport
-1	Weather is rain, ice, snow
-2	Weather is fog

* Not cumulative—i.e., a force with both a cruiser and carrier do not get +3.

4	CA 2	CV 2	(7)	(8)
---	------	------	-----	-----

THE SHIPS:

Due to the scale of the game it is prudent to continue to represent individual ships abstractly—even in a variant such as this. However, each class of vessel will have very real differences in either search or combat abilities. Capital ships will be individually represented on counters. The numbers which appear on their counters serve as their combat factor for both offense and defense. Carriers have no intrinsic offensive capabilities other than the aircraft they carry. Aircraft can only be based at sea on carriers—not arbitrarily assigned to any sea zone. Carrier-based aircraft are limited to Fighters and Tactical types with a maximum complement of 4 factors per carrier. Sides with more than 1 carrier can have as large a sea based airforce as their carrier strength can support. Aircraft for carriers must come from the regular air force allotments of the belligerents.

Destroyers and submarines are represented by designation only. The numerical rating on each counter represents the actual number of such vessels in that fleet and losses are taken in a "change" manner. Should a DD6 counter lose 3 factors it would be replaced with a DD3 counter.

Transports have no ship counters; the unit being transported represents the transport vessel. Each land unit at sea has a basic defense strength of 1. If lost at sea, that country's naval transport capacity is reduced by 1 unit until replaced.

BATTLE PROCEDURE:

Once battle is joined, players merely exchange fire on the Basic Game Attrition Table. Only Battleships and Cruisers may fire although Carriers, Destroyers, and Transports are susceptible to loss also. All "Back 2" and "A Elim" results are treated as No Effect. "Exchange" equals damage of 1 factor to the target vessel. Such ships fire in subsequent rounds at a strength 1 factor lower than previously. Once a ship has been damaged to the point that its combat factor is 0 it sinks. A "D Elim" result always sinks the target vessel. Battle continues until one side either withdraws or is eliminated.

WITHDRAWAL TABLES:

Should either player desire to break contact and end the battle they may use either of the following tables.

The Smoke Table may only be used every 3rd round of battle and if successful ends the battle immediately. Cards are drawn from the random number deck.

SMOKE OR EVASIVE MANEUVER TABLE MAKE SMOKE

1-3	Successful — Action broken
4-0	Unsuccessful — Battle continues

The Cover and Turn Away Table is more complicated. It may be exercised on any turn providing the force in question includes either CA's and/or DD's. The player attempting to withdraw

designates a portion of his force to make a torpedo run to cover the withdrawal of the remainder of the fleet. No fire is exchanged. The defender may take one double strength salvo at any or all of the attacking torpedo forces. Surviving torpedo ships may draw 1 card (cruisers: 2) from the Random Card Deck and get a damage result for every ace drawn. If the turn-away draw does not succeed battle continues as normal with all vessels considered in range. Otherwise, the battle ends immediately.

COVER AND TURN AWAY

TORPEDO FACTORS MAKING RUN:	REMAINDER OF FORCE BREAKS OFF SUCCESSFULLY ON DRAW OF:
1	1
2	1, 2
3	1-3
4	1-4
5	1-5
6	1-6
7	1-7
8	1-8
9+	1-9

Example: Assume a Red fleet of 1 Battleship (5) and two cruisers (2) attacks a Blue force of 3 cruisers (2), a carrier, and 4 destroyers. Blue immediately elects to turn away with his carrier and make a torpedo cover run with his destroyers and a cruiser to safeguard the Aircraft carrier.

This amounts to 6 torpedo factors and a 5 is drawn from the random number card deck so the cover attempt is a success and the carrier and 2 remaining cruisers escape the battle. The forces making the torpedo run must undergo the doubled fire of the 3 Red vessels. Red concentrates his fire on the cruiser and 1 destroyer for an 18-3 or 6-1 attack. Both vessels are sunk. The remaining 3 Blue DD's draw 3 cards for their torpedo run but fail to draw an ace. The battle ends.

Example: A Red BB (5) and cruiser (2) attack 3 blue cruisers (2). Both red vessels mass their fire on 1 cruiser for a 3-1 attack, roll a 2, and damage 1 cruiser. The Blue cruisers direct their fire on the Red cruiser, sinking it in a 3-1 attack with a die roll of 1. *Round 2:* the Red BB selects another Blue Cruiser and attacks at 2-1 (5-2), rolls a 5, and damages another cruiser. The cruisers return fire at 1-1 (5-5) and miss. *Round 3:* Red again concentrates fire on the last undamaged cruiser at 2-1 (5-2) and sinks it with a die roll of 1. Blue returns fire at 1-2 (4-5), rolls a 2, and damages the BB. Blue, now reduced to two factors (2 damaged cruisers), attempts escape by making smoke and leaves the battle after drawing a deuce on the Smoke Table. Had the battle continued the Red battleship could have concentrated fire on either Blue cruiser at 4-1, or attacked them both at 2-1.

AIR ATTACKS:

Carrier-based planes can attack or perform fighter missions in any area of the zone in which they're stationed providing their target has been spotted first by a friendly force. Carrier planes cannot perform land assignments unless stationed in areas A or B.

Land-based aircraft may attack forces at sea only if the A/C are based in a port of the sea zone in question. Such A/C do not have to count hexes to the target. They can attack any vessels in their sea zone which is in their area radius. See the Master Area Chart.

Aircraft attack with 1 strength point per combat factor regardless of the type (exception: fighters) in the same manner as normal ship-to-ship action except that there are no subsequent rounds of battles. Surviving air factors return to base. The planes must undergo AA fire equal to 1/2 of the total fleet strength on the *Tournament Game Attrition Table* with only the defender's losses being assessed.

Example: 12 MDM bombers attack a fleet of 3 cruisers (2), 6 destroyers (1), and 4 transports (0). The bombers attack all 4 transports at 12-4 (3-1) and roll a 5, thus destroying one. The fleet returns fire at 6-12 (1-2), rolls a 1, and shoots down one enemy air factor.

SHORE BOMBARDMENT:

Naval gunfire support and invasions can only be attempted from Area A. All Capital ships located on coastal hexes can add 1/2 their offensive factors to any ground attacks being made against units on coastal hexes. Such forces are subject to return fire by the opponent's artillery in his following turn.

Example: 2 Red BB's (5) and 5 cruisers (2) add ten attack factors to an attack. Blue moves in 3 full strength Breakthrough artillery pieces in their turn and returns fire against one BB at 24-5 (4-1) on the Basic Game Attrition Table and sinks it.

U-BOATS AND ASW:

Whenever U-Boats have established contact with an enemy force they may attack once on the BGAT. All surviving DD factors may return their fire. The action is then broken off.

Example: 6 U-Boat factors attack a convoy of 3 transports, a carrier and 9 DD's. The U-Boats take two 1-1 attacks against 2 of the transports, missing both and a 2-1 on the carrier (4-2), rolling a "2" and damaging it. The 9 DD's then attack 3 of the U-Boats at 3-1, roll a "6", and sink all 3.

Remember: While an "exchange" only equals damage of 1 point against a capital ship; U-Boats, DD's, and transports only have 1 strength factor and thus are eliminated when damaged.

THE SITUATION:

Blue, obviously the greater maritime power, has much the stronger fleet, as would be expected of a nation bordered on 3 sides by water. However, this works to both her advantage and disadvantage. Due to the high manpower needs of her navy, Blue's army has been reduced by the elimination of her Tenth Army Corps. She is also dependent on overseas suppliers for much of her war material.

Therefore all 10 of the per turn Blue replacement factors are susceptible to loss.

Blue must bring in its 10 replacement factors every turn from off the board. She does this simply by declaring 1 of 3 Sea Zones (A, B or C) on her border. She must still hold a port in that Sea Zone which is not isolated from the other centers of production. If enemy forces exist in that Sea Zone a card is drawn from the set of 12 face cards not used in the Random Card Draw. If the area drawn is the same as that occupied by enemy forces a battle ensues. Thus it is always wise for a sufficient escort to be allotted to the convoy each turn to ensure, if not safe passage, at least a costly victory for the Red forces. Each replacement factor is transported by 1 transport factor.

Replacements: Both Red and Blue have 50 Shipbuilding factors which they must spend during the first 5 turns. No additional construction is allowed after the 5th turn. Construction of 10 factors per turn is authorized and must be secretly recorded after each turn so that players will know when new forces become available.

It takes 1 full turn in a major naval base to repair damage of 1 point to any ship.

SHIPBUILDING TABLE

	Cost To Build	Time To Build.
BB	10	8 TURNS
CV	8	7
CA	5	6
DD	3	4
UB	2	4
TRANS	1	3

THE FORCES:

Both players may start with their forces at sea or in ports of their choosing.

	RED	BLUE
BB	4	8
CV	1	3
CA	5	10
DD	5	41
UB	25	4
TRANS	40	50



MASTER AREA CHART

Area	SPECIAL EFFECTS	Land Based Area Radius	Basic Encounter %
♣ A	Shore bombardment, Invasion, sea-to-land strikes	ALL	70%
♦ B	Sea-to-land air strikes	NO TAC	50%
♥ C		NO TAC OR FTR	30%
♠ D		NO TAC, FTR OR MDM	10%

SERIES REPLAY

Panzerblitz

Situation #4

Robert Livermore—Russian

Richard J. Plock—German

Judge: Roy Easton

The game was played face-to-face, with all the rules pertaining to face-to-face play. An electronic randomizer set for 1–6 readout was used in place of the die.

The real-space line-of-sight determination option was used, but no other optional or experimental rule was used.

It has been assumed that the road bonus is NOT negated in a town hex if that hex is occupied by a wreck or a friendly unit. It was also assumed that all units may start off the board and enter the same road hex with the full advantage of the road bonus.

The neutral commentary provided by Roy Easton is presented in italics between each move.

INTRODUCTION

Situation 4 involves a mobile delaying action conducted by a small but powerful German force against a much larger mobile Russian force. The principle German advantage is the long range of his units, since the average range of his A & H class units is 16.5 hexes while the average Russian range is 7 hexes. This range advantage means that the German can stay back and shoot up the Russians without risking return fire. The Russian has only 12 armored units and their loss will severely curtail his offensive capabilities.

The best Russian strategy involves punching along the main road through the woods at I-3&4 and H-4&5 and finally capturing Golod, the adjacent woods, and Grabyosh by turns 5 or 6. Speed is essential in these turns to bring the German to battle and eliminate at least 10 German units. Once the desired Russian level of victory has been obtained by eliminating German units, the Russian hides in the towns and woods, finally swarming all of his units onto board 3 on turn 10 to prevent the German from getting a Marginal Victory. Russian units should not be stacked except on town or slope squares because stacks are very tempting targets for the German artillery. The Russian should concentrate his fire on exposed German units to achieve the maximum number of "X" results. The Russian can afford to exchange units 1:1 with the German while the German can't.

The German player controls the tempo of the game. If he doesn't contest possession of boards 2&3 with the Russian, the game becomes a draw. If he does, he risks losing his units and giving a victory to the Russians. Since the Russians have so many units, the German will be able to get a Tactical or Decisive Victory only against a poor Russian player. The longer ranges of the German units must be used to pick off the Russians before they get close and the German cannot afford to stick around to be Close Assaulted. Trucks and halftracks should be prime targets, particularly if they are transporting another unit. Russian armored units are also prime targets since their loss will halt the Russian offensive and allow the German to pick off the trucks and halftracks at his leisure.

I feel that there is about a 50% chance of a Russian victory in this scenario and that it is not as unbalanced as previously claimed.

German Preliminary Comments:

In contrast to the opinion expressed by Mark Saha (*General*, V. 11 #1, p. 29, May 1974), I regard this situation as reasonably well balanced and one of the most interesting of the PB situations to play. I think the Russian does have a slight edge, but only a marginal one. I rate it as follows: Probability of Russian victory—40%, German victory—30%,

draw—30%. Furthermore, the probability of a net Russian tactical (or better) victory is less than 10%. Not all that unbalanced.

Why do I think this in view of the disparity of forces? The German player has the less burdensome task; he must prevent the Russian from doing things. The Russian player must, with less range and firepower, push the bulk of his force intact onto board #3 and simultaneously destroy significant numbers of German units. Any changes made to equalize the situation should be minor—e.g., give the German more halftracks in place of the trucks; or replace the Jgpp IV with Jgpp V. Simpler would be to reduce the number of Russian trucks or increase the number of units required to be on board #3—but only by 2 or 3 units! Note that making more than one of the above changes is too much. Do NOT change the character of the situation, which is a beautiful demonstration of the effectiveness of a small force in causing a delay to a large one.

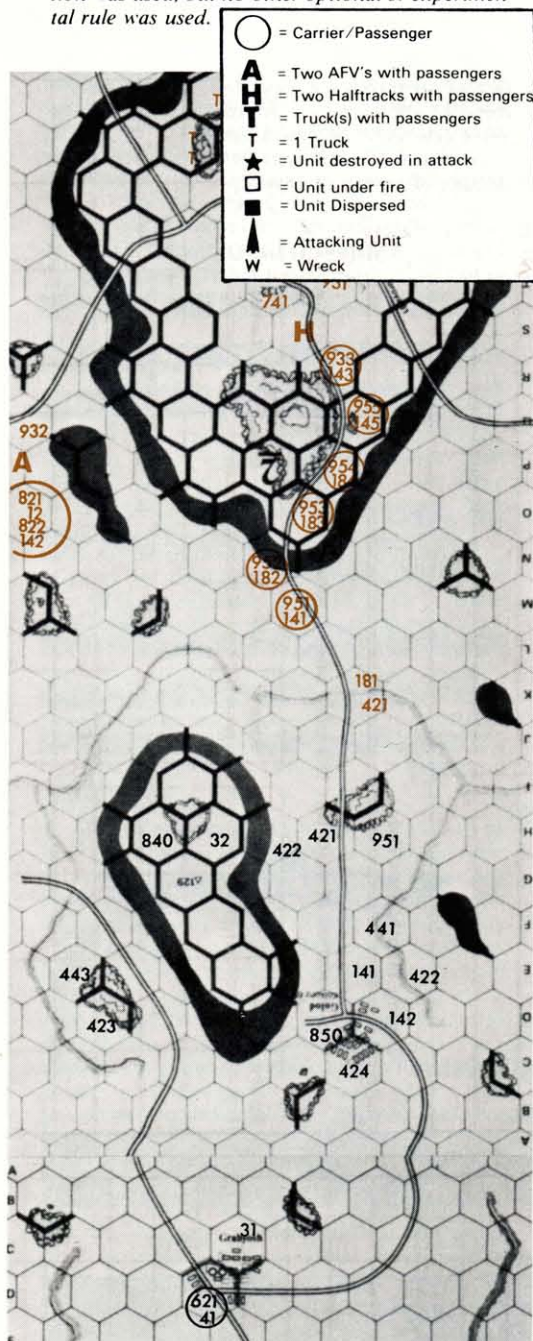
That, in fact, is the key to the German strategy, DELAY. It is just as important (if not more so) to delay the Russian by threats (force him to unload infantry by threatening to take out two units with one shot, etc.) as it is to destroy Russian units. Keep the number of safe (for the Russian) hiding places on board #3 to a minimum. Remember, a Russian unit alive and well on board #2 at the end of the game counts just as much as one you have destroyed.

Russian Setup and Move 1.

Of course on the opening move, the Russian player does not know what sort of defensive position the German player will assume. He must assume the worst which is that the German player will take up his best defensive position. But the Russian really can't do much more than get his pieces lined up on the main road through board 2. The limit he can get to is 2k4 on the road in front of the woods. I have unloaded infantry here so I can CAT position 214. I can't prevent the German from going in there, but I can threaten him with subsequent CAT, if he does go in there. A German truck or halftrack would be destroyed and anything stronger might be dispersed and destroyed subsequently.

I am also running an attack on the Southern flank. Part of my goal is to get as many pieces on board 3 with as few losses as possible. To do this I need a broad thrust and I do have enough pieces to produce that.

The line up of the forces assigned to the Russian player has tanks loaded with infantry leading. This of course has the effect of keeping the Russian options, open as well as giving maximum potential fire power on the line the German takes. The infantry can spot if they survive CAT. They are also harder to destroy, if tanks and anti-tank guns are used. The German weapons are about evenly divided between anti-personnel and anti-tank fire power 100 vs 98 (not counting halftracks and infantry) but his anti-personnel weapons consists of just two guns. Thus he can use these against, at most, two pieces. The anti-tank weapons are more numerous, but halved against infantry. Hence, our



German Turn 1: Both sides have plunged onto the board to grab their initial positions. The symbols above will be used to illustrate the action in the illustrations which follow.

overall approach is to permit the infantry to take the punishing fire power, and make sure that some survive so that our fire power can be brought to bear on whatever German pieces are spotted. This is the reason for the present set-up. The trucks in the rear can pick up guns and infantry left behind in these fights.

German Move 1:

Here is the first of many difficult decisions; the exact choices here can be critical. My strategy is to concede 4-8 German units; try to hold him to less than 20 units on board #3. Keeping in mind that I am delaying him (or trying to), I must try to block as far forward as is safe. Hexes 2L10 and 2M10 hold the northern flank for one move. The two halftracks 441 and 442 are exposed to fire at 3-1 odds, but for him to fire would not only delay the firing units, but have them exposed to counter-fire from the Nashorn and the gun on H7. In addition, the following units would be delayed because of the loss of the road bonus on the slope. I dare not go into 2I4, the CAT is too dangerous a threat. The gun on 2H7 is a sacrifice, but he will have to unload to get it safely. This is the part I am not sure about—should I have one gun on H7 or H8; 2 guns, one on each; 2 mobile units; a mobile unit and an infantry? Mobile units have time to leave next turn; guns get destroyed. Halftracks 441 and 442 are to slow him down; e.g., he cannot unload infantry on F4 on his move with the idea of a CAT on the town immediately thereafter. I would have preferred to use infantry, but it cannot get out of range of the SU185 next move. The Hummel covers F5 or G4 in case he tries an immediate push. I expect it, the Wespe, and the 88mm gun to go to hill 107 next move. If the Nashorn has no targets, it will go to 3F8. This will give me plenty of well-positioned firepower to start hitting his units. It is absolutely essential that I make use of my greater range and fire-power; he can afford to lose at a 3-1 ratio and still win if all of the survivors reach board #3. It is pointless to run; I could never win, and furthermore he can travel faster than I can. His main thrust has to come through Golod; the Northern flank, while it cannot be ignored, is not as important. I could make a flank attack in the O—T region, but it would be inherently unsound and probably lead to a Russian decisive victory.

Turn 1) Rus: The flanking attack in the South is a good idea although I prefer to have the SU-85's in the center. The tanks should be stacked in the woods on Hill 132. Two units can get to O-5, one to P-5, etc. In this way, 7 armored units can hide in the woods. Furthermore, T-34/85's in P-5 and O-5 can shoot up anything in H-6, allowing this hex to be occupied by the tanks on N-6 and M-5.

Ger: This forward position is quite good although reasonably fragile. Had the Russian been more aggressive, halftrack 442 would be dead and the position shattered. The Nashorn is overexposed and an aggressive Russian would knock it out after its first shot. Best send it to the rear. I don't see any need to unload an a-t gun.

Russian Move 2.

This a tough and advanced defense line the German player has taken. I have to unload more infantry than I care to in order to crack it. I want to make him decide between exposing his tanks to a high risk of dispersal or leaving. Dispersal of German pieces in this situation will probably result in destruction of the dispersed pieces on a subsequent turn. The German player cannot afford losses, but he particularly cannot afford losses in his tanks.

For example, the German Panther located in hex 2H4 can get 3-1 odds against my T34/85, but this leaves the SU 85 and the 45mm free to fire at him at 3-1 odds; the Panther is also open to CAT. The Panther thus runs high odds of either destruction or dispersal, and dispersal here is equivalent to very likely subsequent loss. I am also pressing positions 2H6-8 for similar reasons.

The German player simply cannot afford very heavy losses; if for example he loses just 10 pieces—giving the Russian a tactical, he must to win, keep 42 or more Russian units off board 3, and to tie, he must keep 32 or more off board 3 while avoiding further losses. Even if he destroys, say 22 to my 10, he still must avoid losing 5 more pieces and still keep 9 of the remaining 29 Russian units off board 3.

I have to pressure this position so that enough of my pieces remain after his firing to destroy or spot the German pieces holding me up. But I must also try to keep my losses at a 2-1 ratio or less with his while advancing.

German Move 2:

My first move served its purpose; he unloaded six units (more than necessary, I feel). Now he must either wait to assault my second line, or assault it with less than optimum force. Either way, it is worth one gun. While it lasts, I use the gun on the 821 unit. If I can disperse it (50%), it is vulnerable next move to my long range units. I could have added in my Panther, but it would be left exposed. I cannot afford to slug it out now. The Nashorn will go after his 45mm gun alone; this may be a mistake, but a) I want my infantry in the gully, and b) every unit I KO now is one less to worry about later. My gun is dead, but he has no other targets. My armor in 2B6 is in position to fire at any assault on Golod without being subject to CAT later. Golod is critical; I want to hold it as long as possible.

If I had my choice, I would rather have dispersed his tank than destroyed the gun. I want to get his mobile units.

Turn 2) Rus: There is no excuse for not attacking the German 442. Had it been destroyed, T-34/85's in H-6 could have commanded Golod. In order to win, the Russian must destroy German units, not let them escape. Too many units were unloaded; one SMG in I-7 should take care of the foolishly placed German anti-tank gun with a CAT. The SMG in I-4 is blocking the road that the Russians must use. Tanks should be in I-6, not hiding in the gully. In order to shoot at the German, you have to spot him. All in all, a poor Russian move.

Ger: Now is the time to take advantage of the over cautiousness of the Russian. Use your a-t gun before it dies. Against an aggressive Russian player, the attack with the Nashorn would have exposed it to immediate attack; in this case, it is quite safe since there are no Russian units to spot it, another Russian blunder.

Russian Move 3.

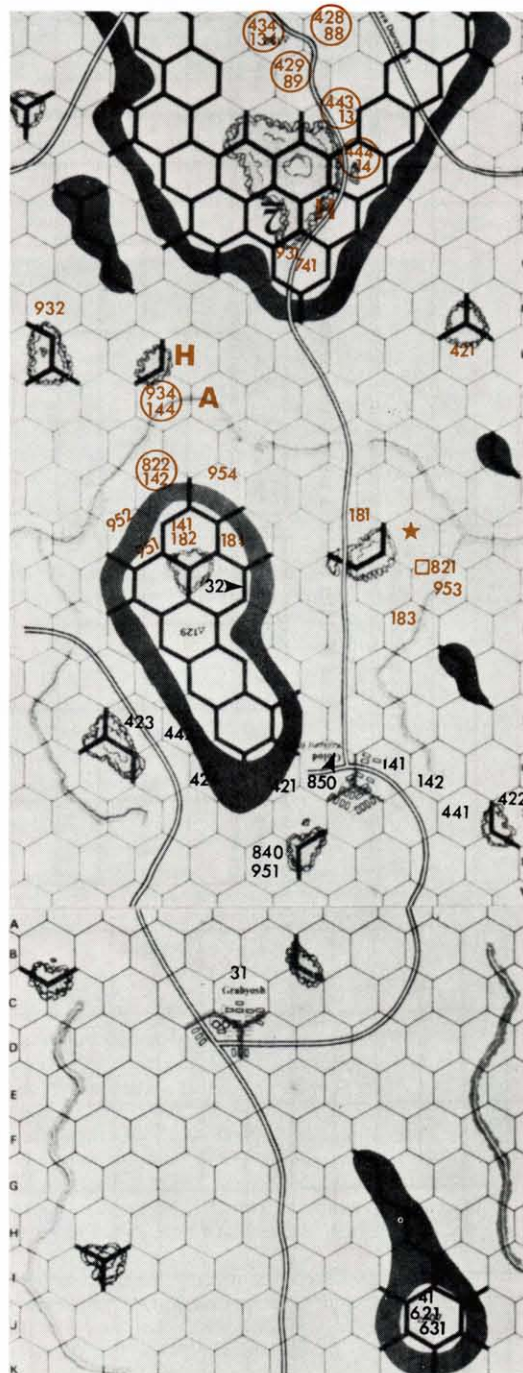
This is going to be a I-I exchange, my Gun for his, since I will CAT his gun located at 2H7. He, however, cost me more than a gun for his; he also cost me two turns; I had to unload so much infantry last turn that I cannot be in any position to pressure the line he has running from 2C1 to 2E9 until the turn after this one, since this turn all I can do is to get my tanks reunited with the infantry and next turn load up.

He now has heavy firepower on hill #107—an 88, a Wespe, and a Hummel as well as his Nashorn in the town, so any pressing of his line has to be able to absorb heavy punishment and still spot for my tanks

and guns. This basically imposes leapfrogging with the infantry which is very costly in time as well as men.

German Move 3:

Well, he decided to wait. I am not sure, but he might have been better off attacking right away. Maybe not, he usually gets almost all of his survivors onto board #3. If he attacked this move, he would have had difficulty with half his infantry out of action. He does not have lots of time, though. Since his infantry must still load, his attack will probably not come before move #5. This should put me in good shape; the gun is amply paid for. Put the Nashorn in an elevated location. No targets to shoot at; just hold.



German Turn 2: The German Nashorn (850) has drawn the first blood by eliminating the Russian 45mm gun at I3. The German 75mm AT gun (32) misses with a 1-1 on the SU85 (821).

Turn 3) Rus: Too much time is being lost without killing Germans. Tanks and unloaded infantry should be on E-3 and E-5 with a halftrack or truck on E-4. Two tanks or Su-85's should be on H-4&5, not halftracks or infantry. The units on E-5 are doubled but they can be attacked from Hill 107. Some effort should be made in order to take the woods in B-2 and C-1&2 since mortars and the SU-152 in these hexes can attack Hill 107. Thus far, the Russian has concentrated on avoiding casualties rather than causing them and he must soon assume the initiative or lose.

Ger: This is a good move. The poorly protected Nashorn (850) has been moved out of the Russian's range but it can still inflict heavy damage with its longer range. Keeping the Panther (951) and Jpz IV (840) out of the battle is a good idea since they are the only really powerful reserves available. The German should begin to worry about the losses of his dismounted units since these are the Russian victory conditions.

Russian Move 4.

This is basically a 'saddle up' move. An uncoordinated or too light attack at this point is worse than none at all.

German Move 4:

Finally forced to open up a hole in my line. However, time is on my side, and any breach he tries to utilize should cost him dearly. He has no good hiding places. My pieces are in optimum position for the attack (of course, so are his!) I could have moved the Wespe to 3N3 (starting last move), but I think it is better where it is. I think I am in good shape, and am going to try to win. This means holding here and not running. He appears to be going to lead with his halftracks; most of his tanks appear better positioned for a northern thrust than for the Golod attack. I want to chew up as much as I can next turn.

The choices here are as critical as on turn 1. An alternative approach would have been to put 2 units in the gully (sacrificing one) to delay him a turn. I prefer the one I am using.

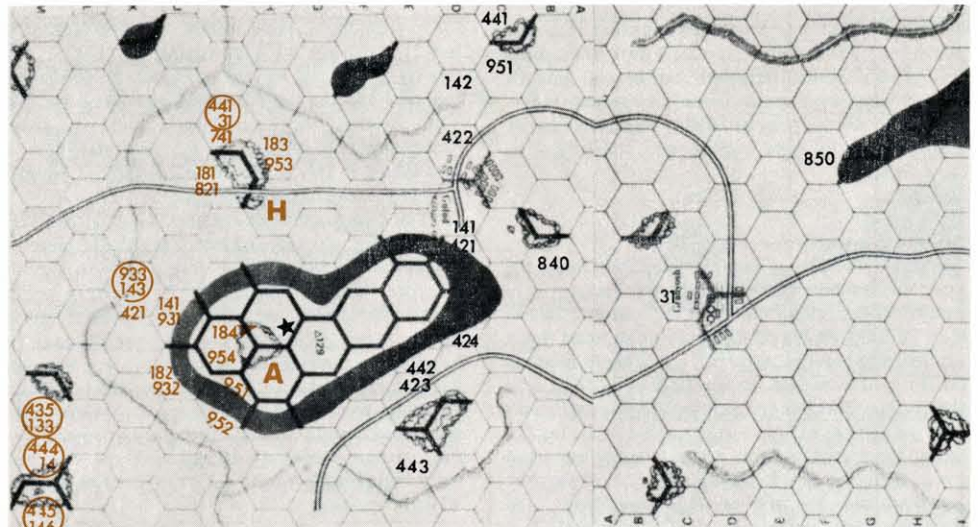
Turn 4) Rus: As long as he is massing for an attack, he may as well bring up everything that he can. There are really not enough tanks for the Golod attack in the woods at I-3&4 and H-4&5.

Ger: The withdrawal of the German rifle unit (142) and the halftracks leaves a hole in the line, but this won't matter if Golod falls. The halftrack 442 is exposed but there are no Russian units to take advantage of this exposure. The Nashorn should be left on the slope of Hill 107 where it would be doubled on defense and out of range.

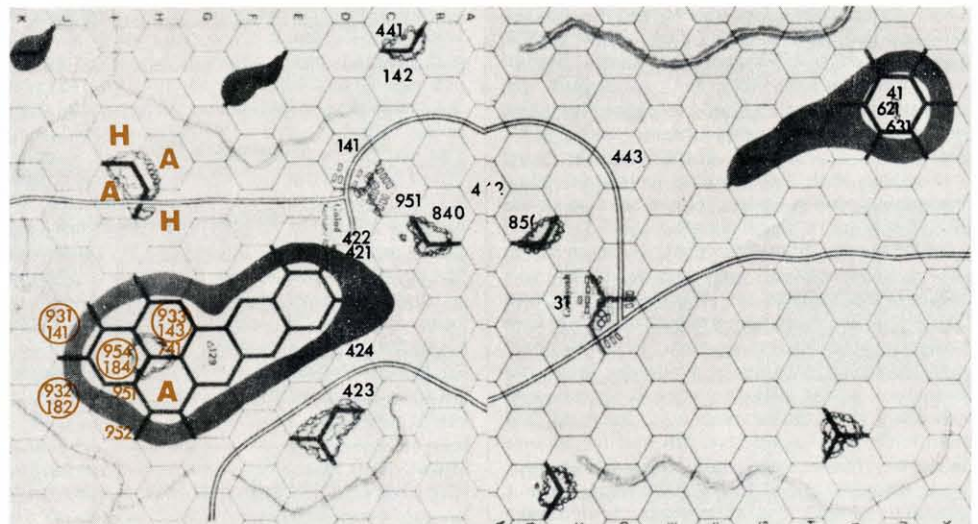
Russian Move 5.

Here I have to expose a lot to getting shot up so that some can survive to spot, CAT or shoot. Some positions are good defensively as well as for spotting and CATing. This is position 2E5. Here by using both his Hummel and Wespe he can't get better than 1-1 against both rifle units and 3-1 against one unit. The rifle unit on the slope at 2E2 threatens to CAT three different halftracks with a two thirds probability of dispersal, and is also costly in firepower to destroy.

Of course it is essential to press the Southern flank now. But if the German shoots this up, he can't use his firepower on hill #107 against the Northern push and this is the only firepower that is really effective against either flank. The SMG unit was unloaded at 2E9 to threaten CAT against the halftrack at 2D8.



German Turn 3: The Russian SMG (184) eliminates the German 75mm AT gun (32) with a 4-1 CAT. The German withdraws his entire line to a position parallel to Golod.



German Turn 4: No firing takes place as the Russian halts his drive to reload his dismounted infantry.

I have not pressed in the center on the hill, since this will only provide targets to guns which have none now. The time for such a push is next turn when my entry onto board 3 will give his guns in and around the town of Grabyosh plenty of new targets, anyway.

German Move 5:

He did not push as hard as I expected; this may be a mistake. I can hold Golod one more turn (I will probably lose a unit doing so), thereby forcing his assault to come through the North. Moreover, I can destroy 3 units without any danger to me. The important point is to try to KO his mobile units. With luck, his dismounted infantry will not make it to board 3 in time. He can CAT Golod next time, but has no other targets. I think he is mishandling his mortars—they could be used against my gun 41 on the hill if they were within range (say hex 2D8) and should be positioned to threaten to do this next turn. They are his longest range units, and he should make use of the fact. I am preventing him from making use of any good hiding places on board 3.

Turn 5) Rus: Finally, he attacks and the attack is a rather good one with only one unnecessary chance

being taken, the stacked SMG and halftrack. Stacked units are tempting targets for German artillery. The two rifle units in E-5 is a good move since the German must be very lucky to disperse both of them and they can get into Golod on the next turn. There may be too much on the Southern flank. I'm sorry that this attack didn't come several turns earlier.

Ger: Taking advantage of the overwhelming firepower assembled on Hill 107, the German had destroyed 3 Russian units. Had the Nashorn been back there too, another T-34/85 would have been destroyed. The withdrawal is being carried out in good order, and 141 and 441 cannot be spotted so Golod is safe for another turn. I see no reason to unload the Russian mortars where Plock suggests. Thus far, the German is doing very well.

Russian Move 6.

He didn't damage me too much. Now is the time to press all along the line. I have placed the SU 152 in a position where it can be shot at, but it is on a slope and has an intrinsic defense of 16. If he wants to shoot it up, it will take a lot of fire power to guarantee its destruction. Otherwise this position gives the tank a good firing position, or is well suited to move to a position on board number 3.

I will CAT his rifle unit in Golod. Otherwise, I have spread out to press other positions—particularly the woods position taken by his Panther.

German Move 6:

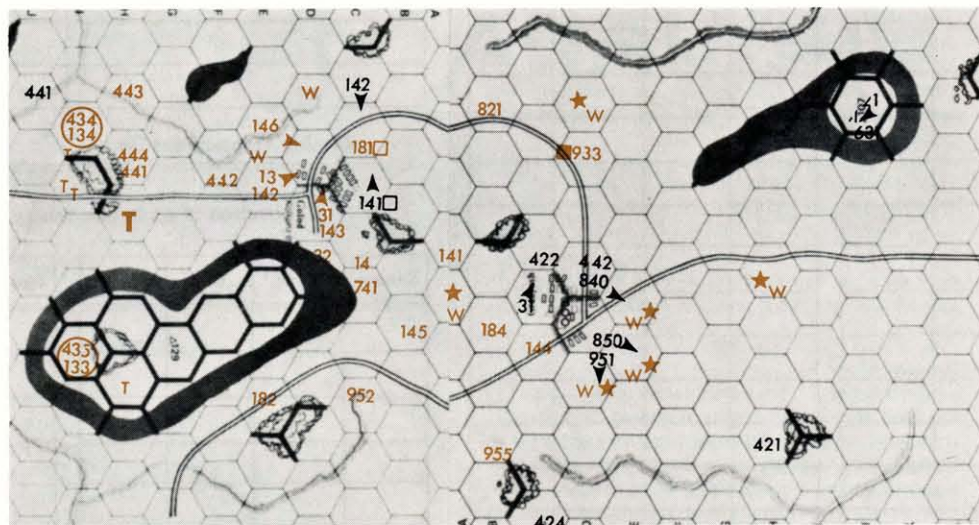
Here comes his push. As I indicated earlier, I am going after his armor. It may not be wisest; perhaps I should try to take out some infantry. However, I must get rid of the armor near the hill to keep my heavy guns active. Using overruns guarantees that his units will at least be dispersed. The halftrack in his rear has two purposes; I hope to entice one of his combat units back there, and maybe I can harass his trucks. As a result of my combat, he has lost 7 of his armored pieces; this will hurt him in his attempt to force his way on the board. He will probably get 5 to 7 of my units, but I expect to hold him to less than 25 units on board #3. Reasonable winning chances.

Turn 6) Rus: Rifle unit 146 should go to D-2 to get to the nearby woods. These woods are too important to be ignored by the Russians. Too many units have unloaded around Golod. The Russian needs to get at least 31 units on to board 3 and he cannot do so if they are unloaded. The Russian really needs to kill some German units in a hurry or lose. The German units around Grabyosh have been foolishly encircled but the armored units can still get out to overrun the Russian units and still end up back in Grabyosh. This was a foolish move since the Russians cannot afford to lose too many of their tanks or their offensive power will be crushed. A better strategy would have been to put infantry on 2-A-4 and 2-B-4 to surround the halftrack and truck and to keep the tanks on the slopes of Hill 129. The German rifle unit 142 should be chased down and destroyed.

Ger: Correctly concentrating his firepower on the Russian tanks, the German has succeeded in destroying half of the Russian armored force in a really fine move.

Russian Move 7.

I missed dispersing his rifle unit and had half my tanks shot to pieces. I can now probably only get a marginal victory from him and hope to prevent him from getting a marginal. This is the only chance I have now of winning. I don't think that he can do better than me with a marginal. I can guarantee getting two pieces and have a good chance of getting two more this turn, and this will give me the marginal. Only if he permits five more losses can I do better. Of course he may have to risk this, if he hopes to get a marginal for himself.



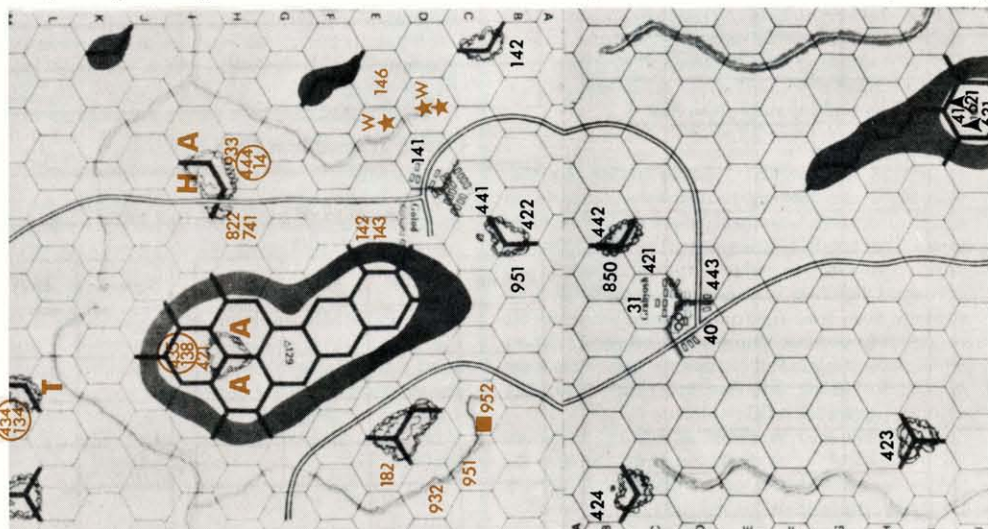
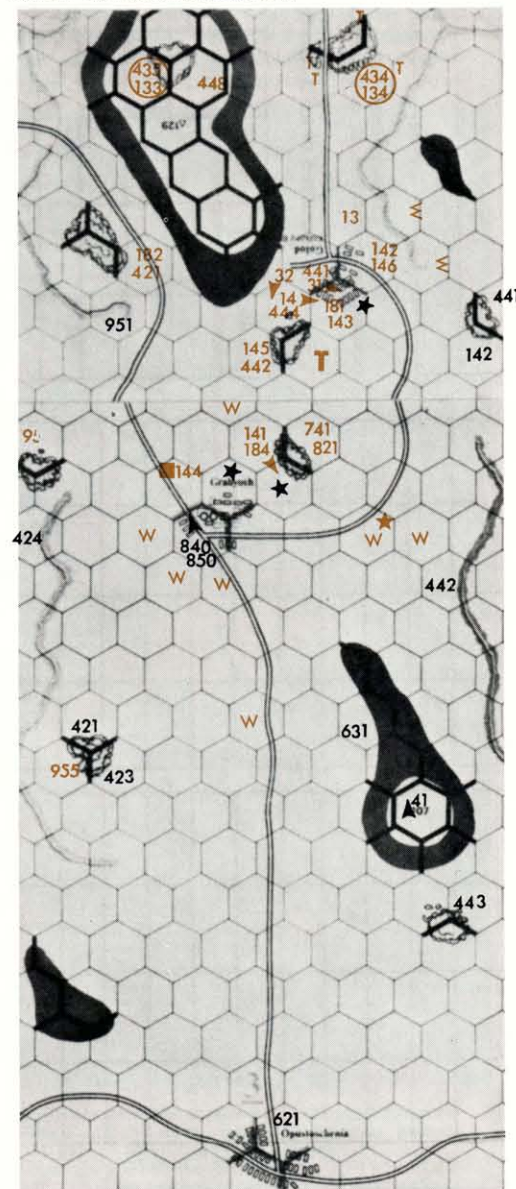
German Turn 6: Russian Rifle units 142, 143 and 146 CAT the German Rifle unit (141) at 1-1 odds with no effect. 141 then withdraws to C4 and CATs the Russian SMG unit (181) at 1-2 with the aid of Rifle unit 142 but is no more successful than the Russians. Elsewhere the Russian has paid a dear price for his invasion of board 3. The T34/85 (951) at H6 is mauled by the 88 (41) at 4-1; as is the T34/C (931) at A5 by the Wespe. The Hummel wipes out another SU85 (822) at D9. Meanwhile, the Russian tanks which tried to spot Grabyosh (932, 954, and 934) were eliminated in Overrun attacks by the JgdPz IV (840), Nashorn (850), and Panther (951). Only T34/C (933) temporarily escapes destruction and even it is dispersed by a 2-1 from the 75mm AT gun (31).

German Move 7:

I think I may have made a mistake last move; I did not intend to let him have such an easy time getting the hilltop next to Grabyosh. Now I have to leave the hilltop (I think?), and he is sure of his 5 units. The halftrack move to his rear forced a couple of trucks north, but did not accomplish much else. I will try to chase his tanks and prevent his 182 SMG unit from loading. A halftrack goes into the gully at 3E9 so that he dare not simply pile loaded trucks in there and have them invulnerable. My Hummel is just barely safe from a unit in 3C6 (measured). I need to kill about 10-15 more units to win. I am ignoring the dismounted guns on board 2 that are exposed; I do not expect them to ever reach board 3.

Turn 7) Rus: The rifle unit 181 should have CATed the German rifle unit 142. The mortars should be unloaded to attack the 88 on Hill 107. After losing most of his armor, the Russian has fortunately

German Turn 7: The Russian gains a small measure of revenge by eliminating the German Rifle Unit 141 in Kolkhoz with a 4-1 attack from her 45mm (14) and 76.2mm AT (31) guns. The Russian Rifle unit 141 and SMG 184 eliminate the German 75mm (31) and a truck (422) with 4-1 CATs. The German responds by knocking out T34/C (933) with his 88 (41) at 4-1 and disrupting the Russian Rifle unit 144 with a 3-1 Overrun by the JgdPz IV and Nashorn (840 and 850).



German Turn 5: The Russian is paying the price for a partial closing with the enemy. The Hummel (631) eliminates the Russian SMG (183) and Halftrack (445) on D3 with a single 4-1

attack. The Wespe (621) likewise nails a T34/85 (953) at E3. The 88 (41) manages a 2-1 Dispersal of the T34/85 at C8.

decided to continue with his conservative game. He really cannot afford to lose many more units and still prevent the Germans from getting at least a Marginal Victory. The Russians still need to kill one more German unit to get their Marginal and should get 441 and/or 142.

Ger: The roll on the overrun of the Russian rifle unit 144 was unlucky but not fatal. It certainly seems time to abandon Hill 107 since the SU-152 is within range and the 88, having fired, is dead. The German seems to be getting a little careless now. He should have used the halftrack 441 to pick up 142 on C-1 and should not have sent the Panther back onto board 2.

Russian Move 8.

I missed his 75, but I can guarantee getting his 88 this turn, thus giving me my marginal. Now I shall try to keep him from getting a marginal and try for a tactical. This is going to be hard to do, given the heavy damage he has inflicted on my tanks. For now we are both playing hide 'n seek and shoot at whatever you find.

I can't load the SMG unit with his Panther sitting next to it, so I may as well CAT it. I have a one third chance of missing him so the placing of my T34/85 is a bit risky, but if I succeed I will be in a good position to shoot the Panther next turn and CAT again. Unless I place the halftrack with the infantry this turn, I cannot get to board three anyway, so I have decided not to risk two pieces adjacent to the Panther in the same hex. Thus, I won't get the SMG on board 3, but, hopefully, I can



German Turn 9: A 2-1 by T34/85 952 disperses the Panther (951) but a 1-2 CAT by SMG 182 is unable to destroy it. Russian SMG 184 and Rifle 141 do manage to disperse the JgdPz IV with

use it to pin and possibly destroy the Panther.

German Move 8:

I do not like the looks of this any more. It appears that he is going to try to settle for a marginal victory (very wise), and by playing it this conservatively he may succeed. With only two moves left, if he runs everything on the board and scatters them, I may not be able to KO enough to hold the draw. What I have to do is try to generate as many chances as possible to get two units with one shot. Unless he blunders, I no longer have any winning chances. I want to try to block as many of the safe hiding areas as I can, otherwise he wins for sure. I wish he had tried to use the Saha strategy; I would have destroyed many more of his units by now.

Turn 8) Rus: Wiping out the 88 guarantees a Marginal Victory; it is now necessary to see that the German cannot get at least a marginal too. The CAT by SMG 182 neatly traps the Panther which was foolishly moved onto Board 2. The Russian is now moving to conserve his units until turn 10 when they will all be moved onto board 2. The German has been getting a little careless and the game will be very close.

Ger: The Panther seems trapped on board 2 while it would be of more use back on board 3. Putting the halftracks in the gully is a good idea and the Hummel should be moved to the south side of Hill 107 where it can command the gully. The German must now concentrate on killing Russian units to keep them away from board 3.

Russian Move 9.

His 88 is gone and I dispersed his Panther. Possibly I can destroy it this turn. There is an excellent chance of dispersal if not destruction. Next turn I'll get the T34/85 on board 3. At last I'm in a position to CAT that damn JgdPz IV which just destroyed my rifle unit in an over run. My best strategy now is to try to disperse as much of his firepower as possible, and keep my marginal victory while preventing him from getting one. Thus I am playing for a 1-0 win. Not very impressive, but certainly better than 0-1 or 1-1.

I can't shoot at his Wespe and Hummel, but on the other hand they can't shoot at anything, if my CAT works and that is the next best thing to being dispersed, or destroyed.

German Move 9:

Now he is all set for his final dash. I am trying to

a 1-1 CAT, however. The Russian Rifle Unit 142 at B9 is dispersed at 2-1 by the Wespe and then eliminated by a 1-3 Overrun attack from German Halftracks 441 and 442.

get the best possible positioning to destroy units that get on the board. It does not matter if he gets one or two more of my units now; what I need to do is destroy 5 of his next time. I got lucky on my overrun of the infantry with the halftracks; a draw is probable.

Turn 9) Rus: The game is very close and will be decided on the last turn. The Panther unfortunately survived but the Jpz IV was dispersed. Moving the rifle unit 142 along the road puts it in position to CAT German units in the gully. Had the German moved the Hummel to the south side of Hill 107, the SU-85, and all other units, would not be safe in the gully. Now is the time to bring up everything for the big rush onto board 3 next turn to decide the game.

Ger: The Panther is holding up 6 Russian units so it is not doing too badly. If it is not dispersed next turn, the German will probably win since he will be able to eliminate 6 Russian units.

Russian Move 10.

I didn't destroy his Panther, but at least it is dispersed along with his JgdPz IV. I'll CAT both of them again and hope for the best. I can also get a shot at his Wespe with a very good chance of dispersal, and my 76.2 has an excellent chance of destruction or dispersal of one of his halftracks.

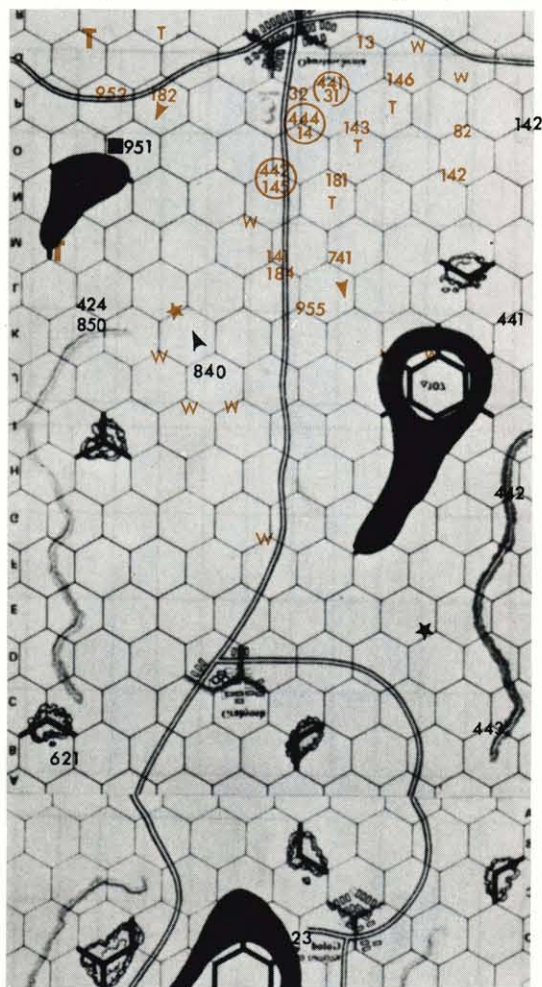
German Move 10:

I got lucky on his attacks; now the draw is guaranteed. Had he been able to put my Wespe, Panther and JgdPz IV all out of action, my only recourse would have been to try a 1-2 overrun with a halftrack against his recon unit.

Conclusion:

The final result was: 6 German units destroyed, 29 Russian units on board #3; a marginal-marginal tie. I may have to revise the opinion I gave in the introduction. I now think the odds are: 50% Russian victory, 25% draw, 25% German victory PROVIDING the Russian player plays for a cautious marginal victory and does not try to "... drive head-on, pushing fast and hard, practically regardless of losses." I should have done somewhat better; I did have slightly better luck than my opponent. I think my sixth move was more of a mistake than I realized. This, in fact, is what gives the Russian the advantage—the German has no margin for error.

Turn 10) Rus: This is it! The 76.2 mm a-t gun on Hill 129 has claimed another victim. It's been doing very well. There are now 35 Russian units on board 3; if



German Turn 8: The Russian finally pulls a few of the German teeth as the SU152 (741) eliminates the 88 (41) and gets a bit lucky with a 1-2 dispersal of the Panther (951) by his SMG 182. The German must settle for finally knocking off the Russian Rifle unit (144) with a 2-1 Overrun by the JgdPz IV.



German Turn 10: The German Halftrack at A8 pays for its boldness as the 76.2mm AT gun (32) knocks it out at 3-1. The SU152 (721) fails to hit the Wespe (621) at 2-1. This will soon cost the Russian a unit. SMG 182 is unable to continue the dispersal of the Panther (951) with its 1-2 CAT, although 184 and 141 do manage to disperse the JgdPz IV (840) again with a 1-1 CAT. The Russian has run out of time and must gain board 3 this turn. The result is a plethora of targets for the German gunners. The truck (425) at B5 is the first to go—hit by a 3-1 from German Rifle fire (142). The Hummel (631) dispatches a T34/85 (952) at 4-1, the Nashorn eliminates Halftrack 443 at D3 which allows the Panther (951) to make a 4-1 Overrun on Recon 133 at C3 and the Wespe (621) does in another truck (421) at F2. The final blow is struck by Halftracks 441 and 443 with a Overrun of a Russian truck (424) at B8 at 4-1.

31 or more survive, the Russians win, if not, it's a Draw. The failure to disperse or eliminate the Panther probably means that the game will be a Draw.

CONCLUSION

The over-cautious Russian strategy was very poor in the first half of the game but was the correct one for the second half. Bob acts like a Montgomery in a situation that demands a Patton. The German started out playing very well but he became careless after turn 6.

DESIGN ANALYSIS



THE FALLACY OF PANZERBUSH

by 2LT Robert D. Harmon

DESIGN CREDITS: *PANERBLITZ Situations #13-24, PANZERNACHT, LEYTE GULF, 1776* playtest

Let's get one thing straight: a tactical wargame cannot approach realism—only complexity. Perhaps wargame simulations can reflect command functions above division level—the player can push units around a map in his own Führerbunker and approximate the real thing. 1914 is the best example of this, with its complexities of mobilization and offensive.

This is not true on the tactical game-board, however. As a wargamer and an armor officer, I believe I can safely say I do not find the two compatible. Do you want to know what commanding a small armor unit really means? It means tanks breaking down, tanks throwing tracks, mired tanks and tanks disappearing altogether because the TC either: 1) thinks he's John Wayne or 2) can't read a map. It means inoperative radios and incompetent radio operators, and every command frequency out except the one to your CO, who's yelling in your ear, demanding a situation report (because he knows even less about what's happening up the road than you do). It means hearing gunfire somewhere up ahead, and holding a map, blurred by the shaking of the vehicle, in one hand while you're using the other to call down artillery that won't, hopefully, fall short and ruin your day.

A wargame not only spares the wargamer the bloodshed of modern warfare, but also the organized confusion. No wargame can even approximate it. The only reason *PANZERBLITZ* and *PANZER LEADER* come the closest to the spirit, the feel of division-level combat is because they have the virtue of being playable and fast-moving, whereas most tactical games on the market get enmeshed in their own complexities.

Still, a wargame is expected to at least approximate reality, within its own limitations—that is one of the canons of our hobby. Hence, the victims of the PANZERBUSH Syndrome can't understand how *PANZERBLITZ* units can scurry about under the guns of enemy units, which can't fire because a) shooting isn't allowed during the movement phase and b) when the fire phase does roll around, the targets are all hidden in bushes and other cover.

This is indeed frustrating. However, before we combat this by modifying the game (rather than our own tactics), an examination of the actual conditions is in order.

The biggest complaint of PANZERBUSH critics is the fact that lateral movement can't be interdicted by fire. One major point should be made here: a stationary vehicle can be hit with much greater ease than a moving unit; the only exception to this is when a moving vehicle is coming straight at the firing unit—then the target appears stationary in the reticle; it just grows bigger.

The way current *PANZERBLITZ* rules work, if the vehicle comes straight at the defender, he'll get a chance to shoot back next turn—before the attacker does (the attacker is usually right next door, in order to expose the defense, who is himself

hidden in his own bush). The problem arises when moving units scuttle through gaps in the defender's line. The defender has no means to interdict these units before they dart into another bush, which brings us to the point made in the last paragraph.

Prior to the advent of wire-guided AT missiles, the only way to track and destroy a moving vehicle would be to bring a gun-tube to bear and put a round (or several) into it. (Near-misses count only in horseshoes.) Riflemen can easily do so with hand-held weapons, as long as said vehicle is a truck or wagon. AA units, with swivel-mounted weapons, and trained in rapid acquisition and engagement of moving targets, can also perform this function, particularly as they can spray targets with automatic fire. I can even stretch a point and admit that vehicles with power turrets, with experienced gunners, can also track and destroy a moving AFV. But that's it!

I am familiar with U.S. field artillery, and have had the opportunity to examine captured German and Soviet equipment. Controls on artillery pieces—and the manual controls provided in tanks, as backup systems or otherwise—are invariably dual: one crank for traverse, one for elevation. Moving the tube requires a coordinated combination of the two. Effective enough for indirect fire (which is off a set of coordinates and dependent on bursts rather than direct hits) and against stationary targets. But a gunner frantically cranking both, while peering through a reticle and trying to track a moving vehicle, will be hard-put to get a hit.

That's under ideal conditions. Try that with an artillery piece that has the traverse and elevation controls on *opposite sides of the gun* (as with the U.S. 105mm howitzer), or with a fieldpiece that doesn't have a direct-fire sight at all, and the problem verges on the ridiculous. And inherent in all dismounted artillery is the fact that they have limited traverse—sooner or later the crew will have to pick up the trails and horse the damn thing around.

A second facet of the PANZERBUSH controversy is the fact that units can take advantage of the Spotting rules and hide behind terrain features. I detect resentment at the fact that moving units can hide in much of the map—indeed, many tactical wargames on the market have large stretches of open, featureless terrain. It should be pointed out here that small-unit leaders must keep their people under cover if they are to survive—20th-Century weapons have the capability of killing unprotected personnel and vehicles with great efficiency. The platoon and company commanders in the units moved to and fro on the *PANZERBLITZ* and *PANZER LEADER* boards will be on the lookout for available cover and concealment.

Accordingly, although you, the player, can see all friendly and enemy counters from your Olympian vantage-point, your units can't. Hence, even a few trucks in a woodland can cause an enemy unit to be halted for a turn or so. Although you may know it's a truck, the man in the lead tank may not know they are, or if he does see them, he would (wisely)

assume the presence of artillery or infantry somewhere near. So the unit will have to deploy and attack accordingly—they can't barnstorm through.

Sheltering under the same cover is the enemy's fighting units. It may be argued that a Wespe unit can't help being aware that the woodline 750m away contains two SU-152 batteries and two rifle companies—but seeing them is something else again. Sure, HE rounds could eviscerate anything within that 250m-wide hex—in that respect, the *PANZER LEADER* spotting rule that a firing unit betrays its location and is 'spotted'—but 'A'-class weapons, which are usually firing solid-steel AP rounds, requiring a direct hit on a visible target, should not be able to fire into that hex with any results. More on this later.

In response to the complaints of the *PANZER-BUSH* lobby, AH instituted Opportunity Fire rules in *PANZER LEADER*. Basically, OpFire means that a unit that expends $\frac{1}{4}$ or more of its MF in an enemy unit's LOS may be shot at; the firing unit may not move or shoot in its own turn. This means a dramatic change in the course of play, as opposed to *PANZERBLITZ*.

OpFire does have some positive uses—it does help simulate defensive fire-planning, and helps curb abuses of the Spotting rules (i.e., trucks and wagons darting past enemy units, carrying infantry in the most unlikely fashion). But for the reasons noted above, distinctions must be made between the various weapons-systems, or we're back to the super-artillery of *WATERLOO* and *GETTYSBURG*.

I offer the following, for both *PANZER LEADER* and any OpFire applied to *PANZERBLITZ*:

1) No 'A'-class unit may fire into a woods or town hex (unless an undispersed friendly unit is adjacent to the target hex—then it's a whole new ball game). Basically, this returns us to *PANZERBLITZ* spotting rules, as this merely prevents 'A'-class from firing at muzzle-flashes.

2) Opportunity Fire may only be performed by the following:

- a) all I-class units
- b) all AA units (including M16 and Wirblewind)
- c) all turreted vehicles—basically, all AFV except the following:

ALLIED: Sexton, M7, Recon HQ, halftracks, M3 Scout, Bren carriers

GERMAN: SdKfz 234/4, Wespe, Maultier, Hummel, Gw38, StuH42, StG III, Marder III, Hetzer, Nashorn, JgPz IV, JgPz V, JgPz VI, halftracks

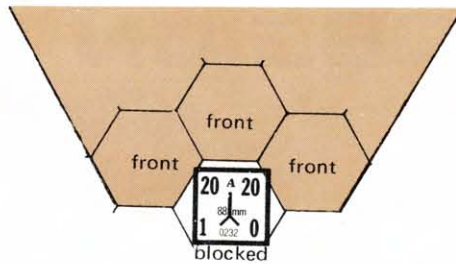
SOVIET: SU-76, SU-85, SU-100, JSU-122, SU-152, halftracks.

(Note that the German and Allied armored cars are not marked as 'Turreted AFV' on the *PANZER LEADER* Unit Function Table—but, with the exception of the SdKfz 234/4 noted above, they were turreted AFV).

3) 'A'-class towed artillery may perform OpFire, as follows:

a) All 'A'-class towed artillery units have a field-of-fire (FOF) radiating straight outward from the front three hexes in front of the unit (that is, the hex directly in front of the unit, and the two hexes—also adjacent to the unit—on either side of the front hex). Those units with FOFs may only fire at targets in their respective FOFs. **NOTE:** The FOF includes all hexes between the three rows of hexes radiating out from the front of the unit. A FOF gives the unit 60° traverse to either side.

b) All units with FOFs must point the front of the weapons-symbol on the unit towards a specific hex-side. The hex—and all hexes behind it, in a straight line—is the center of the FOF.



c) Units with FOF may change facing within their hex during the friendly movement phase. Assistance by vehicular units is not needed, except for 88mm and 90mm units in *PANZERLEADER*, as specified by the general FOF rule for artillery therein. Units may not change facing if they have fired during the combat phase immediately preceding. Units may not change facing at all during any other part of the turn.

d) Units under this FOF rule ('A'-class towed arty) may utilize OpFire if, and only if, enemy units have expended a full $\frac{1}{4}$ of their MF continuously in the FOF, in addition to being in the units LOS. Units so using OpFire may not change facing during the next friendly movement phase.

4) Mechanics of OpFire (for *PANZERBLITZ* owners):

a) Units able to practice OpFire (under the above rules) may fire at moving enemy units if the target unit has expended $\frac{1}{4}$ of its movement in the firing units LOS.

b) OpFire is done during the enemy movement phase. The defending player (the non-moving player) watches as the enemy player moves each unit. When a moving unit has moved $\frac{1}{4}$ of its move in the LOS of a friendly unit, and if the friendly player decides to fire, the unit is stopped in the hex it completes $\frac{1}{4}$ MF in the LOS of the firing unit, and the attack is performed.

c) Each firing unit may fire only once that turn. When it does fire, it is to be marked (either by inverting it—although it is not dispersed, or putting some agreed marker on it—e.g., an inverted wreck counter.) Units that have performed OpFire may not move or fire during the friendly player's turn.

d) OpFire is always voluntary, insofar as the firing player is concerned. He may choose not to fire, whether at a particular opportunity, or for an entire turn. It is never mandatory.

e) LOS, for OpFire purposes, does NOT extend into woods or town hexes, unless those hexes in question are spotted by an undispersed friendly unit, as in Spotting Rules.

This, basically, returns OpFire to sane levels. It underlines the importance of armor—particularly the tank—but, just as in the old *PANZERBLITZ*, requires the player to intelligently utilize key terrain—and deny it to the enemy.

The importance of key terrain cannot be under-emphasized. Anyone who has served in the field, even in training, can testify to the affect a simple hill can have—particularly if it has to be climbed. And that situation can't be overcome by a complaint to AH—that's one game where the rules can't be changed for the players' benefit. Thus, I contend that *PANZERBLITZ*, although it did make some generalizations for the sake of playability, was the best tactical-level game made. I contend that the OpFire and amended Spotting rules inserted in her WestFront counterpart, *PANZER LEADER*, constitute an anomaly, and the above recommendations prune these rules back to manageable levels. Within those parameters, *PANZERBLITZ* and *PANZER LEADER* together can constitute the best simulations of mechanized warfare.

A.H. Philosophy

Continued from Page 17

under the old relationship. Shaffer Hall which had been promised to us months in advance by previous management was suddenly taken away for Friday night due to class finals being scheduled there. Notice of this change did not come until after the programs had been printed. This meant that Shaffer could not be set up for Saturday activities until 10PM Friday evening. A prior agreement that room reservations would be acknowledged by JHU was not kept due to a communications problem. No one received confirmation of their reservations although their rooms were waiting for them. At this date we can only speculate on what effect this will have on attendance. But we do have a pre-registration of over 500 so we are guaranteed that *ORIGINS* will be the largest wargame con yet held. JHU is taking steps to help out at every turn so we hope to be able to report a very successful fait accompli in the next issue.

Only 24% wanted *ANZIO* pbm kits and even less wanted them for *TACTICS II* so it is unlikely either will see fruition. However, the *ANZIO* Basic Game is such a good pbm game that we may just go ahead and run some as a service to game owners. Only 31% used the *WATERLOO* playing aid in Vol. 11, No. 6, yet 82% wanted to see more such efforts. Similarly, only 41% used the plans for compartmentalization trays printed in Vol. 11, No. 1, but 79% wanted to see more. We'll probably continue to use them from time to time as space fillers.

Vol. 12, No. 1 proved to be the most popular issue we've ever published with a cumulative rating of 2.57, .07 better than Vol. 11, No. 4 our previous best. Vol. 12, No. 3 will feature an excellent *Jutland* article by Dean Miller which will include 5 new scenarios and dozens of new ship counters. Naval buffs won't want to miss that one. The 1200 point scoring system for the last issue showed our feature article returning to top popularity with Rob Beyma's 1776 treatise taking the honors. The voting breakdown looked like this:

1776—A Colonial Overview.....	375
Anzio Series Replay.....	334
Design Analysis.....	171
The Turk Connection.....	100
Didactic Chancellorsville.....	79
1981.....	58
Battle for Berlin.....	33
More on Compartmentalization.....	29
Avalon Hill Philosophy.....	17
Question Box.....	3
Infiltrator's Report.....	1



The new *WATERLOO* rules are now available from the Parts Dept. for \$1.25. While the game remains essentially the same, changes to river and forest rules affecting movement will probably alter play balance considerably in favor of the French player. The old battle manual is incorporated into the new rules as are directions for printing grid coordinates on the board. Numerous small changes were made which are too lengthy to go into here but consist primarily of removing ambiguities from the old rules. Do not expect to find the new rules in a recently purchased *WATERLOO* game as it will probably take a year to exhaust current stocks of already assembled games. The new rules will be available only from the Parts Dept. for the time being.

Which City First?

STALINGRAD:

EMPHASIS ON ADVANCED PLANNING

by Richard D. Moyer

"There is no instance of a country having been benefited from prolonged warfare. It is only one who is thoroughly acquainted with the evils of war that can thoroughly understand the profitable way of carrying it on."

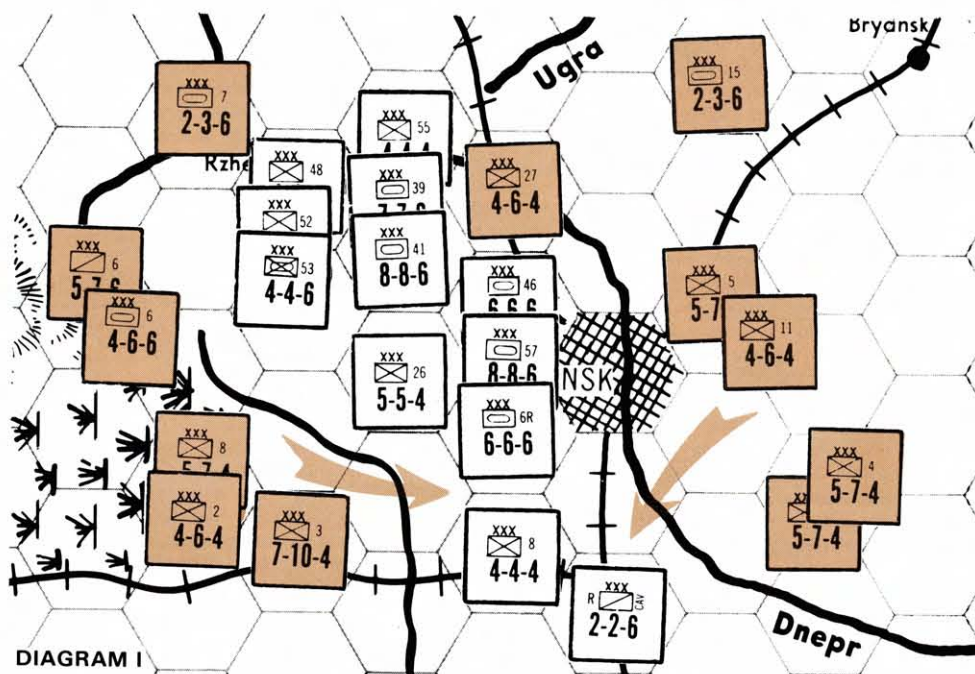
SUN TZU, *The Art of War—500 BC*

In the game of *Stalingrad*, one side (Germany) has definite, set goals which take precedence over the destruction of the enemy army in the field. To accomplish these vital goals, which is the capture of all three target cities—Leningrad, Moscow and Stalingrad, it is most important that a certain amount of time and thought be given to setting up a strategic plan which will 1) accomplish the aforementioned prime objectives and 2) predetermine future action when the primary target cities have been taken. At first glance, a novice to the game can be lulled, very easily, into a false sense of security after he notices the size of the Panzer Arm available to the Wehrmacht at the outset. Unfortunately, the result of this conclusion is normally a wide dispersement of Panzer strength along the length of the Front with the aim of capturing all three, or at least two, of the target cities simultaneously. Repeated failures, using this strategy will awaken the frustrated German to the idea of bunching his tanks together into "killer packs" where they will be able to work in conjunction with each other, on a single front, with the aim of achieving a solitary breakthrough and then exploiting their combined advantage.

The purpose, therefore, of the following is to point out both advantages and disadvantages of each of the three Russian cities and hopefully assist the Wehrmacht during the decision making portion of the game.

Objective Leningrad:

When Leningrad is chosen, by the German, as the first city to strive for the decision can be supported by some very persuasive arguments. Primarily, it is the closest of the objectives facing the Wehrmacht; thereby shortening the normal amount of time needed to reduce Russian replacement strength. Also, after the capture of the city, Helsinki is opened up, once again, as a supply route. This will become an additional, invaluable asset if a flanking assault is begun on the Soviet capital. An attack against Leningrad has tactical as well as strategic advantages in its column. The complete subjugation of the city cannot be realistically expected any time before the onset of the first winter, assuming you are playing a competent Russian opponent. This will work in the German's behalf. Just as the snow halts the advance to a crawl it will also freeze over the city's last line of defense, the Luga and Volkhov rivers. If the Soviet Army has received minimal casualties (which they will have done, in all probability) these rivers are their only hope of containing the German advance in an organized defensive locale before the suburbs are overrun. Using foresight and clever use of the movement factors you have left, a bridgehead, at the very least across the rivers should be obtained even at the risk of attacking through the marshes and across Lakes Peipus and Ilmen. This will prove essential, if lacking the striking power for a frontal assault, you



choose to put the populace on a starvation diet by the Spring of 1942.

However, along with all the good; Leningrad possesses an equal amount of poor and possible trouble points. Foremost among these latent thorns in the side of the Wehrmacht is the Nemunas River. Almost always heavily defended, this river must be crossed quickly and in strength to ensure a rapid breakthrough to Minsk and eventually the Riga-Dvina River line. A slow, time consuming flanking effort through the Nemunas-Bug River gap will defeat any plan to seize Leningrad quickly and even with phenomenal success afterward your spearheads will be stalled outside the, now free flowing, Luga and Volkhov Rivers. Another threat to the success of this German effort will be the arrival, at the front, of the Soviet veterans from Finland. If a decisive breakthrough has not been established by the time Helsinki falls, these additional troops will bolster any sagging defensive areas and often provide enough of a reserve for the Russian to go over to the offensive, temporarily. The time the Finns gain for the Wehrmacht should be put to the best possible use. If the advance eastward is swift enough the Soviets might even be forced into a garrison situation if required to disengage units in Finland to contain a thrust on the main front. This last statement, of course, is pure conjecture and its validity will stand or fall in any number of situations. Proper procedure and Grand Strategy, in this instance, will be left to the discretion of the commanding German General.

Objective Moscow:

Moscow, the Soviet capital and heart of the Russian war machine in real life, holds no political and morale boosting after effects in Avalon Hill's recreation of the campaign as it did during the actual conflict. Therefore, it should be dealt with like any other objectives on the German agenda for conquest. To delve into the advantages of assaulting this city, it is wise to visually scan the mapboard first. The initial glance will show you that the geographic position of the city, in the center of the Soviet Union, would be a definite boon to the Wehrmacht should it fall into German hands. Future operations against the remaining two cities would be made a good deal easier with the German Army positioned in the center of Russia. Flanking possibilities are boundless and the German Panzer

arm would be in store for its prime intended usage. Because of its central location and the difficulties that would occur should the city fall, Moscow is usually defended most tenaciously by the Soviet Army. This will mean that, at the beginning of the game when German losses play a less important role, the Wehrmacht will face an extremely rigid defense. As the game progresses, naturally, a severe German casualty rate will hinder swift progress as more and more strong units, from the spearheads, will have to be dropped off and left behind for flank protection. However, in the months prior to the Russian replacement rate German losses can be justified and accepted as a necessary evil in exchange for the capture of Moscow. The losses that will be inflicted on the advancing Wehrmacht can be further rationalized by the knowledge that if the operation is successful the General Staff may rest assured that their advance was over the flower of the Soviet Army. A flower that may not ever bloom again with the loss of this very important objective.

Moscow, is by no means the easiest of the three targets to take. In fact, it may even be classified as the most difficult. The trouble, in capture, could stem from any number of possible problems. The city is protected by an extremely large amount of geographic defense lines. Paramount, once again, is the Nemunas River and Minsk. Close behind this first stumbling point is Smolensk and the Dnepr and Dvina Rivers, a tough nut to crack, indeed, if competently defended. With the Pripyat Marshes protecting their flank to the South withdrawal can be expected from one doubled position to the next. Unless the Wehrmacht has succeeded in inflicting severe, crippling losses on the withdrawing Russian Army a frontal advance, eastward, along the Moscow Highway could turn into colossal Napoleonic disaster. (See Diagram I.) A two-pronged thrust, on either side of the Pripyat Marshes could provide the answer. However, for either arm of the pincer, whether it be the North or South, to make any notable progress a majority of the available tank strength will have to be allotted to one side. This reduction in striking power may have severe, long-range, adverse effects on the campaign as a whole. The Wehrmacht assuredly will discover itself being channeled into what may turn out to be a tedious and fruitless salient ending abruptly at a 3-1 proof defense line. Many times this salient can be seen being formed in the central sector with

Smolensk as the farthest advance position. If this should turn out to be the case, replacements from Leningrad and the returning units from Finland may prove to be just enough to provide the Russians the strength for a Winter counter-offensive.

Objective Stalingrad:

Stalingrad, the southernmost city that the German Army must deal with, is given secondary importance by many for various reasons. To mention several you would have to say that the distance from the Russo-German border to the city is enough to frighten some away in itself. Another would be that many very good German commanders still live under the popular misconception that they will be given the city, without a siege, if they drive hard enough on Moscow. This "gift," so to speak, will be received very seldom if at all. Therefore, we must assume that the Soviets plan to defend Mother Russia with the utmost zeal and tenacity and base a conclusion upon that. The positive aspects, then, of a Southern Campaign would be primarily surprise. A very strong sense of security is created in the Russian camp by the numerous rivers (i.e., Dnepr and S. Bug), crossing through a majority of the Ukraine. Therefore, speed and daring are of the utmost importance in this sector of the front. A quick crossing of the Prut River in June, 1941 in conjunction with a thrust into the Lwow area and in July with a move through Hungary is many times sufficient to create disorder and a lack of continuity in the Soviet defense. Once a breakout has been achieved, by the Wehrmacht, doubled terrain positions are scattered with tremendous areas of wide open steppe separating them. This will greatly cut down on the time, at first glance, it looks as if will be needed to arrive at the gates of the city. The Southern front is the largest of the three we are analyzing; therefore, a greater number of troops will be needed to protect it sufficiently, thereby weakening the other fronts. Land gain is tremendous and quick. If a Southern assault serves no other purpose than to cut down the necessary time of the campaign in terms of miles traversed, without loss, it has one major irrefutable plus in its favor.



However, just like the other two cities, a thrust toward Stalingrad has its dark side. As has been previously mentioned speed and daring are of paramount importance. Should the spearheads of the Wehrmacht be blunted, thereby necessitating a slowing of the offensive, the surprise element is lost followed quickly by German hopes of Eastern Conquest. Decisive battle must be sought in an effort to destroy Soviet resistance before the Dnepr River and Kiev. If an orderly withdrawal is

permitted the Wehrmacht should expect a long, hard struggle without victory. Once the Dnepr has been breached along a wide front a slow delaying campaign is put into practice by the Soviets as they back up gradually eastward toward the relative safety and solace offered by Kursk and Kharkov. If the Russians are successful in this endeavor, with a sizable troop concentration, the Wehrmacht may find branching out across the steppe most difficult and once again be easily channeled into the salient formed by Kharkov-Donets River-Rostov. This is very unstable territory and a Soviet counter-thrust back into the Stalino area may end the campaign in disaster. Shades of the German Sixth Army. (See Diagram II.)

Additional Insight:

Diagram I is an example of a very misleading Soviet defense. A quick glance will lead to the conclusion that the Red Army, being unwilling to sacrifice the Upper Dnepr River around Smolensk, has decided to fortify its eastern banks and put up a delaying action on the approaches to Moscow. However, after closer scrutiny, it becomes quite apparent that a thrust made by the Wehrmacht, in the direction of Rzhev, might very well end in disaster. A Russian counterattack back across the Dnepr will seal off any Germans foolish enough to have moved into the salient. Worse yet, would be a Soviet assault into Smolensk; leaving their leading spearheads, on both sides of the pocket, in doubled positions. Reinforcements, from Moscow, will suffice to lock shut the eastern edge of the "cauldron." The 4-6-4 defending on the river, above the city, serves the purpose of "sweetening the pot"; meaning the Wehrmacht will have to move at least eighteen (18) attack factors toward it to achieve a 3-1 battle.

Diagram II illustrates the head long impetus of the German Armies in the South. The Dnepr River has been breached along a wide front and troops and equipment literally pour into the Donets River Basin (the most direct route to Stalingrad). Once there, the plans call for the final death blow to be dealt to the reeling Soviet Armies outside Stalingrad. Although the Russians are short of breath they are always quite capable of forming up formidable defense lines as they draw closer to their supply bases in the rear. A quick Soviet counter blow delivered to the rear of the German spearheads will sever communications and supply from the rest of the Army leaving the advanced German units stranded and helpless outside of Rostov.

The table below exemplifies only five of the many questions a German commander should ask himself before embarking on a campaign of Eastern Conquest. Each of the questions has been rated on a scale of three; excellent, good and fair, based upon the probability of their chances for success. You will notice that I purposely omitted a poor or no chance at all rating. This was done to demonstrate that nothing is impossible and that things that "appear" difficult to overcome are, in reality, only facades to cover weakness. A knowledge of the enemy's intentions plays a major role in any military campaign whether it be genuine or fantasy. To be able to expect things prior to their happening will enable you to prepare for and counter them before crippling damage can be inflicted on your forces.

Observations and Conclusions:

Operation Barbarossa is a gamble. Hitler realized this when he risked sending his legions into a two front war in 1941. Due to the immensity of Russia, it cannot be conquered and occupied as the Western nations of Europe could before her. Therefore, only through the use of well planned,

thought out and executed hammer blows directed at the country's moral and political centers can the regime hope to be toppled and replaced. The Wehrmacht must seek decisive battle early in the game when Soviet replacements are minimal.

	LENINGRAD			MOSCOW			STALINGRAD		
	EX.	GD.	FR.	EX.	GD.	FR.	EX.	GD.	FR.
Ease of Supply & Reinforcement	X				X				X
Probability of Counter Attack		X		X					X
Surprise		X			X		X		
Time Involved in Capture	X				X				X
Exploitation Possibilities		X		X				X	

To enter into a campaign like this without first analyzing Soviet deployment and laying out the German groundwork for the assault will prove to be a futile and frustrating experience. I have attempted to present, here, the pros and cons of each city to assist the Wehrmacht during those crucial and vitally important first 5-10 moves. After the primary objectives have been decided upon and Germany has embarked on her Eastern odyssey, make every effort to adhere to the original plan. Opportunities will present themselves as the progress of the Wehrmacht picks up initiative that appear to be too good to be true. However, think before you disengage your heavy units from the line, to attack that 2-3-6 defending a river. Is the weather about to turn bad? Will the Infantry be able to retrace their steps, in one turn, to attack their original objective or will the front outrun them and leave them lying dormant in the pacified areas behind the line? Time works for the Soviets and many clever Russians will use this ruse to lure you away from your objective. Playing "hop-scotch" with your tanks is alright and even beneficial during the early stages of the game. Then the Wehrmacht is frightening on interior lines and transit can be accomplished with a minimum of effort. It serves to weaken and stretch the Soviet defensive front. However, don't be misled into traversing half of Russia to get the "easy pickins" after you have committed yourself and your opponent knows, as well as you, where the intended strike will be. Pick your target and make every possible effort to stay with it.

The Soviet Union is far from unconquerable provided the German knows where he is going. I hope that through my commentary and diagrams I have helped, in some way, to shed some light on the strengths and weaknesses of the colossus which is Russia.



A.R.E.A. RATING SERVICE

As outlined in The General, Vol 11, No. 5, Avalon Hill offers a lifetime service whereby players are rated in relationship to other game players. Return coupon NOW, along with the \$2.00 lifetime service fee for complete details on the Avalon Hill Reliability Experience & Ability Rating.

☐ I don't object to having my name and address printed in The General with the rating lists. I rate myself:

- ☐ A—an excellent player
- ☐ B—a good player
- ☐ C—an average player
- ☐ D—a novice in my first year of gaming
- ☐ E—a beginner

Dear Sir,

Timeless as it may seem, *Origins of World War II* is still at a comparatively young stage in the Avalon Hill line. Its main idea, the diplomatic conflict of 1935-39, provides a well rounded aspect of events leading to World War.

With this venture in mind, The Historical Objectives Chart becomes the main focal point of action, leading to a stimulating source of understanding to the conflicts arising in this situation. Germany's position of powerful influence allows the domination needed for the vitality of the growth of Nazi control.

The control of Austria is perhaps one of the priority functions of Germany in the opening turns. Indeed, Hitler called: "The most disgraceful aspect of the Treaty of Versailles" that which forbade the union of Germany and Austria. Being an Austrian himself by birth, Hitler intended his native land to be given back to the community of the German people and to become a part of "The Greater Germany."

The only barrier however, that kept him from carrying out his idea when he first came to power was Italy. The Italians had no desire to have a common boundary with Germany. Instead, they preferred Austria, because it was a weak state which could serve as a cushion against Germany.

However, the entire situation changed after an unsupported movement to revolutionize the Austrian government failed, and with the Italian invasion of Ethiopia in hand, Hitler was in the driver's seat. As a result, by the end of 1936 Germany and Italy had come to an understanding concerning Austria.

Austria then came into a difficult situation. Von Schuschnigg, who wanted an independent small state, agreed with Hitler in that Austria, although independent, was "A German State." Schuschnigg had hoped that his move toward the Nazi regime in Germany would cease Austrian Nazi agitation in his home country. This was of course, in vain.

Meeting with Hitler later in Bavaria, Schuschnigg was told to place his government into the hands of the Nazis. Yet even after this he still favored a free election by the people of Austria to determine whether to become pro-Nazi or remain Independent.

Hitler, outraged at this action, sent troops to the Austrian border. Left with no help from the outside, Schuschnigg was forced to resign and turn Austria over to the Nazis. Hitler had again succeeded, and he was free to move on.

We are then left with the question of the possible effect of these actions on the game. Indeed, Austria has a precise bearing to the effects of Germany winning the diplomatic war and the chart sponsors an adequate point value. But I believe more of a stress should be placed on Germany's control of Austria as a part of winning the game.

Therefore, in the light of the question of Independence or Control and to stimulate the role of elections in that state, I propose that a roll of the die be used to indicate the outcome. A die roll of 1,2, or 3 meaning Independent and 4,5,6 indicating pro-Nazi control. The end result would be that if Germany, at the end of the game, has a control counter in Austria, and the country elected to remain independent, the control counter would only be worth 3 points. Otherwise, attribute the normal 4 points.

Hitler did hold an election but it was done in typical Nazi fashion and as a result 99% of the vote was pro-Nazi.

Michael W. Ziegler
Los Angeles, CA

★★★★★

Dear Sir:

These days I feel the trend is to buy a wargame, play it once or twice, then put it in your closet to collect dust. This seems like a waste of money, time and effort. Most people probably read the rules, campaign analysis booklet and situation cards to *PANZERBLITZ*, play a game, then set it in their closet and buy a new game. They may never play *PANZERBLITZ* again, or, when they do get around to playing it have forgotten the rules. There is nothing more frustrating than to play *THE BATTLE OF THE BULGE* for a while and then try to reassociate yourself with *PANZERBLITZ*.

But I believe that the *GENERAL* turns many of these types into better gamers. With contests, variants, historical data, game ratings, etc., people become more interested in a variety of games. I know because I was one of those who

Letters to the Editor ...

would buy a game, play it once, buy another game types. The *GENERAL* has truly been a great help to me. A hearty "well-done" to the staff!

Daniel Wayne Lee
Coronado, California

Ed. Note: Although we are hardly like to come out with a stand against buying new games, we do agree that few people play the games well anymore due to a lack of experience with each one. Improving the quality of play of its readers has long been a goal of the GENERAL.

★★★★★

Dear Sir:

Here we go with yet another modification of *OUTDOOR SURVIVAL*.

This modification deals with scenario 5, "Pursuit". Having played this with 3 players (2 guards and 1 escapee) I find that, with a little thought on the part of the guards, concerning initial placement of their person counters, the escapee may be run to earth fairly quickly.

In order to give the escapee a better chance in the three-person game, or in the two-person game with people of varying ability, I have devised a "tactical" level addition to the basic rule that, when the pursuer enters the hex containing the pursued, he automatically finds him.

The first modification concerns the use of "outpost" counters—if the escapee enters a hex occupied by an outpost, it is treated as if he entered a hex with a guard of equal movement capability.

At the conclusion of the escapee's turn (after wilderness encounter section) if he has moved into a hex containing a guard or outpost, the following calculations are made: subtract the escapee's movement factor from that of the guard(s) occupying the hex, and develop a number that is either zero, plus or minus. Treat this number as zero for an outpost. If the square contains a river, subtract 1 from the first number. If the hex contains a trail, subtract 1 if the escapee has not entered the hex at the trail rate, (otherwise add 1 to the basic number). The escapee rolls the die and adds the developed number to it (remember, adding a negative number *reduces* the number to which it is added). If the resulting number (die roll plus correction number) is less than the movement cost of the hex (considered as ONLY plain, forest, mountain, or swamp—no river and/or water or trail correction), the escapee *escapes detection*. The die must be rolled as many times as there are pursuers and/or outposts in the hex. Note that, if a guard lands on the hex subsequent to the escapee, the same procedure is gone through at the end of the guard's wilderness encounter phase, but only for the guard.

For example, the escapee lands on a hex containing both an outpost, a guard, and a river. The type of terrain is forest. The escapee is at the F level, the guard at the D level.

1. The outpost is rolled first. The correction factor is 0 (outpost) — 1 (river) = -1. The escapee rolls 2. 2 - 1 = 1, which is less than 2 (forest/movement) = escape.

2. The guard is rolled next. The number is: 4 (guard MF) — 3 (escapee MF) — 1 (river) = 0. The escapee rolls 1. 1 - 0 = 1, again less than 2 (forest movement cost), and again escape.

3. A guard at Life Level E enters the hex. As a result of wilderness encounter, he loses 1 life level, to F. Now, the number is: 3 (guard) — 3 (escapee) — 1 (river) = 1. The escapee rolls 3. 3 - 1 = 2, hence the prisoner is captured (2 is equal to forest terrain movement, no river.)

Craig E. Ransom
Baltimore, Md.

★★★★★

Dear Don,

Panzer Blitz fans, or anyone who has recently read *Gulag Archipelago*, should look into Al Stewart's album, "Past, Present, and Future." The first cut on side two is entitled "Roads to Moscow," a disturbingly beautiful song that runs a bit longer than nine minutes to cover four years of war in Russia.

The instrumental work is largely guitar and violin, but it's the constant soft-spoken imagery in the lyrics that sends you scrambling for the *Panzer Blitz* set. I don't recall the exact words, because I

only heard them two or three times, but one of the verses went something like this:

"Two broken Tigers on fire in the night,
Losing their souls to the wind.
The flames of the Tigers are lighting the road
to Berlin."

If you ever get a chance to listen to "Roads to Moscow", you'll buy the album.

Jimmie Long
Shreveport, LA

★★★★★

Dear Sir:

In the Jan-Feb General, J.R. Jarvinen's article on British strategy in Scenario #2 of 1776 has a small inaccuracy which could have, depending on the players involved, a far-reaching effect. He states, with regard to the American forces at Ft. Ticonderoga, that "The defenders cannot escape, nor can they be reinforced." The latter statement is correct, but the first is not. In accordance with the Question Box ruling in the Sept-Oct 1974 General, the Americans can leave the fort via their bateau.

I feel sure, however, that Mr. Jarvinen had submitted the article to you before the Sept-Oct General came out, and thus was not aware of the rules clarification.

The question is, where do the Americans go? They can neither debark at the end of Lake George, nor attack St. Johns. Either of these positions is an open invitation for the British from Ft. Ticonderoga to crush them. Instead they should leave the artillery unit in the fort and move the bateau, 4-8 and 0-8 supply unit to KKK38. KKK38 is the optimum choice because to reach that hex the British supply unit must attempt a forced march of 6 MP, a highly dangerous procedure. Thus, if the British decide to follow the Americans via their own bateau, they will be unsupplied and attacking at odds of 1/1 (5/5/5). Of course, the British can decline to pursue, but this leaves the Americans within striking distance of Canada.

If the British do follow and attack, and if the Americans can get a -1 or more through the matching of the Tactical Cards, they might win the battle decisively, and should at least be able to inflict casualties disproportionate to their size. The loss of a major portion of the St. Johns' expedition could prove disastrous to the British game plan.

Charles Stars
West Stockbridge, MA

Ed. Note: A plan always looks different when seen through another man's eyes. For example, yours takes into account a British forced march when Supply is not allowed to force march.

★★★★★

Gentlemen:

I think that your AREA rating service is the best idea Avalon Hill has come up with in a long time. The wargaming community has been in need of a reliable way to test an individual's wargame and strategy skills. Although a system such as this has been in use on a smaller scale, the *GENERAL* is a perfect vehicle for spreading it all over the country and the world.

One of the better things made possible by the service is that a person can pick a suitable pbm opponent. Many players, including myself, are hesitant to play pbm because of opponents that either cheat or skip out of a game in progress, although fortunately those types are in the minority. Gone will be the days of anxiously waiting to see if your opponent has moved or skipped.

Picture the situation of a young, ambitious wargamer in an isolated area. He plays pbm in every AH game and wins almost every time. Yet, he cannot make his name known in wargame circles, even when he writes brilliant articles for the *GENERAL*. Then, like a miracle, the AREA rating service is started. Modest as he is, he puts himself down as an average player. In the months that follow, he climbs up the rating list by leaps and bounds. Soon he is near the top, and is finally noticed and recognized as someone who is (barring fraud) a very good player by anyone who glances at the list. A rather dramatic portrayal, but it gets the point across.

The Qualifiers rating is a necessity. A person could play "pushovers" and/or cheat and get a high rating, but sooner or later he will be flooded with challenges from better players because he is near the head of the list, supposedly one of the best that reads the *GENERAL*. Other than that, the Qualifiers rating is needed to get an idea of how the player got his AREA rating, so an individual can pick an opponent who is at the same degree of skill as himself.

An added bonus to the rating service might be a tournament. At the end of a specified time period (a season, if you will) the top fifty players have the option of entering the Avalon Hill-sponsored tournament. There would probably have to be one game basic to all players that would serve as the only game played, so the tournament is made as unbiased to one game as possible. This is where cheaters and frauds would be knocked down. If they declined entering the tournament, they still would be deluged with challenges. Some player might get suspicious about that person and complain, perhaps getting the person tossed out of the rating service. Maybe part of the rating should be based on the average rating of the persons an individual plays against.

The AREA rating service should be a big success. The more people that join, the better it will be. In a year or so it should become a good indicator of who's who in wargaming.

Brian Thomas
Edina, MN 55424

Ed. Note: The AREA rating service does indeed have a lot of potential for promoting wargaming as an organized activity. Besides the obvious advantage of matching opponents of equal ability and sorting out the chronic complainers or quitters, it does offer a medium whereby recognition can be gained. A "Top 20" list for wargamers is possible as are tournaments for those with equal skills. However, the system needs wider acceptance if any of these things are to come to pass. If you are at all interested in seeing AREA promote and improve competition in the hobby, you can enter by sending in \$2.00 and an assessment of your skill level (excellent, good, average, fair, or novice) to Avalon Hill. Mark the envelope—ATTN: AREA.

★★★★★

Dear A.H.:

I'd like to compliment you on the production of 1776. I have most A.H. games and feel that this one stands on top of the heap. The advent of multiple combat and the new tactical card system has really put the wargamer on a single hex; he can't sit back on his easy chair watching his cardboard counters from a safe distance . . . no, he must get into that hex and fight . . . refuse the left, enfilade right, plow up the middle. He can see, hear, feel, smell, and taste the cold reality of combat. 1776 has so much to offer: the movement tactics of *Panzerblitz*, the terrain of *Outdoor Survival*, and the grandeur of *The Third Reich*.

Of course, 1776 is not without its flaws. What I found to be a very frustrating error in design is the 1/2DE and 1/2AE cells of the Advanced Game CRT. It seems that the CRT was designed so that the higher the die roll achieved by the attacker, the more effective was his attack, and thus the more favorable the results would be to him. This is generally true, except when the player who receives a 1/2DE or 1/2AE only has two strength points involved. For example, in a case of 3-1 odds, if the defender has two strength points in a given hex and the attacker rolls a 3 the defender loses both strength points; however, if the die roll is 4, 5, 6, or 7 the defender only loses one strength point. This situation destroys the assumption underlying the design of the CRT (i.e., the higher the die roll, the more successful the attack). Under the present system, when the defender has two strength points in a hex, it doesn't seem "to pay" for the attacker to roll in the artillery and other means of upping the die roll . . . this, I say, is a ludicrous situation. However, there is a simple solution: after each 1/2AE on the CRT place an asterisk (*); after each 1/2DE place two asterisks (**); to the left of the CRT there is ample room to make the following footnotes:

* or AE2, whichever is greater.
** or DE2, whichever is greater.

A final note to 1776 history buffs—let's have some more scenarios! In Vol. 11, No. 4 of *The General*, Robert D. Harmon did such a fantastic job of enriching the *Panzerblitz* game. Certainly the same can be done for 1776; there are so many instances from which to choose . . . the units in my 1776 box are pleading for action!

Ron Magazzu
Parsippany, NJ 07054

\$8

Division and Brigade Level Game of the Civil War Battle

1. Physical Quality	2.62
2. Mapboard	2.57
3. Components	2.45
4. Ease of Understanding	2.26
5. Completeness of Rules	2.52
6. Play Balance	3.43
7. Realism	3.07
8. Excitement Level	2.55
9. Overall Value	2.64
10. Game Length	3 hr., 8 min.

THE QUESTION BOX

A. No.

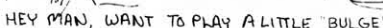
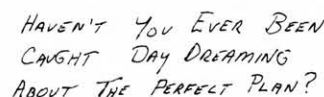
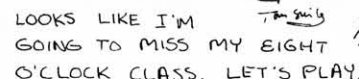
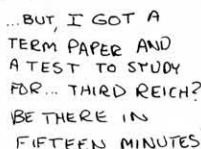
GENERAL back issues are selling out faster than we can revise the list of those still available. The following comprises the latest listing of past editions still in stock. They sell for \$1.50 plus postage.

out of stock

Up to \$1.00, add	25	from \$5.01 to \$7.00, add	90
from \$1.01 to \$3.00, add	50	from \$7.01 to \$10.00, add	1.00
from \$3.01 to \$5.00, add	.75	from \$10.01 to \$15.00, add	1.25
		\$15.01 and up, add	1.40

Those issues not listed have been sold out and are unavailable. Asterisks indicate the subject of the feature article; Δ = the subject of the Series Reprint.

Good Old School Daze



James Stahler made it two wins in a row in the IGB mini-tournaments by taking the honors in the recent *AFRIKA KORPS* contest with 4 victories. The next IGB event is scheduled for September 13 when the highly popular Richthofen's War Demolition Derby of Origins I fame will be repeated. All gamers in the area are invited to drop in at 1501 Guilford Avenue for the action. While here, you can look over the half price supply of damaged games and enjoy competition of all sorts.

The Interest Group Concept is continuing to spread to cities across the country. The UTA Historical Simulations Society meets every Friday night in the UTA Student Union Building in Arlington, TX. Interested parties should contact John Trice at 7525 Laurie Dr., Ft. Worth, TX 76112.

Interest Group San Francisco under the direction of Michael Peterson meets bi-monthly at the "Gardens" Recreation Hall, 1919 Alameda de las Pulgas, in San Mateo, CA. Among their plans for the coming year are a Bay Area tournament based on the PWA-AH 500 structure of Origins I. Mike can be reached at 415-574-5998.

Yet another Interest Group goes under the name of Suncoast Wargaming Confederation and draws members from Pinellas, Hillsborough, and Manatee counties in Florida. Contact Steven Fellerman, P.O. Box 11694, St. Petersburg, FL 33733.

Tom Oleson, the hyperactive devotee and designer of *ANZIO* is offering a free Errata sheet to all Anzio players who request same and include a stamped, self-addressed envelope for the reply. Interested parties can contact Tom at his 1200 High Ridge Lane, Santa Barbara, CA 93103 abode.



Philip Roth, author of *Goodbye Columbus* which won the 1960 National Book Award for Fiction, was photographed for the cover of a recent book with an Avalon Hill game clearly discernible in the background. This is just a little more evidence of the rising popularity of wargaming. The game, seen beyond Roth's left knee, is *Gettysburg*.

Infiltrator's Report



Avalon Hill Basketball Strategy League 1975 Champion Dennis Yost (left) is being congratulated by League Commissioner Gary Sipes

Dennis Yost, pictured above, swept the final round play-offs of the Avalon Hill Basketball Strategy League by besting Paul Oldaker's Houston Rockets team in 3 straight games. Yost, who finished second in regular season play in the 10 team league, edged Don Greenwood's favored Knick team in overtime to win the preliminary round before outclassing the Rockets. The Brave's play-offs victory garnered Yost a first prize of \$50.

The A.R.E.A. system continues to grow slowly with a total player pool now in the neighborhood of 800 players. 85% were in favor of printing the "Top 20" listing of A.R.E.A. members in each *GENERAL* and 71% liked the idea of the *GENERAL* sponsoring A.R.E.A. pbm tournaments. We agree and think that it will give the hobby a much needed direction so we will implement both suggestions at the earliest opportunity. However, neither project can begin until the player pool builds up a reliable rating. Once enough players have reached the Provisional Level (10 rated games) in the ratings we will begin these projects. In the meantime, if you are not an A.R.E.A. member you should try it out—especially if you plan to do any pbm gaming at all.

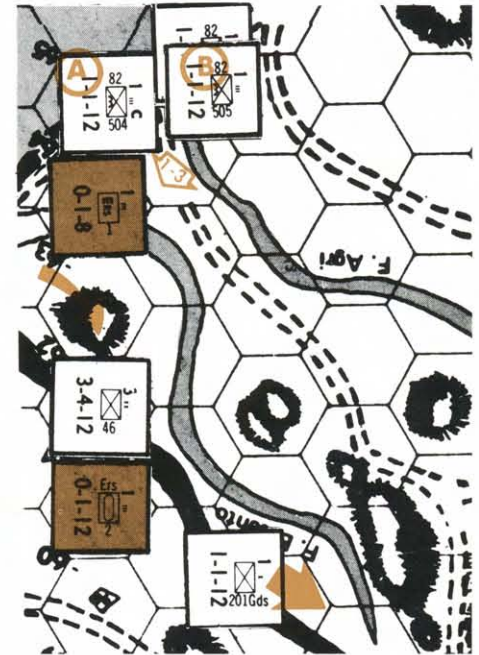
The new edition of the *AFRIKA KORPS* rules are now available. However, as the changes involved with the new edition are limited to a one page appendix of questions and answers we do not recommend their purchase unless you are really turned on by having the latest version available. If you do order them however, be sure that you specify the new 1975 edition. The rules and manual sell as a set for \$1.25.

A.R.E.A. members who submit requests for opponent matches via the A.R.E.A. system should remember that they don't get a reply without a stamped, self-addressed envelope.

Organizations seeking public announcements of tournaments and conventions in the *GENERAL* are reminded that such material must be received at least 3 months prior to the activity taking place. We receive many convention announcements which we'd be happy to publish but which must be discarded because the event would be over by the time the next *GENERAL* is printed.

From time to time we get inquiries about how to read your subscription code. It is a very simple formula. Each name plate should contain a 1 or 2 digit number followed by a / and another two digit number. The first number is the month of the last issue of your subscription. The second number is the year. Thus, if you have a 7/75 on your envelope this is the last issue of your current subscription. Readers are asked to note that although our current Parts List and Order Form lists prices only through June 30th we plan no price increases during the balance of 1975 and thus the quoted prices remain valid.

The solution to Contest No. 66 was provided by Anzio designer Tom Oleson. It featured a commando raid with 82/504 landing at Y65 (A). Then the Allies drop 82/505 and 82/325G at X66 (B). A roll of 1-3 is necessary to permit these two regiments to advance next to the German unit at Y64, for a 4-1 attack (using one of the 3 Allied air factors). This is an automatic victory, as a 4-1 is certain to destroy the 1 step of the German *erstaz* unit.



The German infantry unit is now out of action, so no Axis ZOC blocks Y63-Y65. The British 46th Division moves Y63-Y62, attacking the German unit at Y61 at 4-1 (with another air factor). This is also an AV. There is now no barrier along the South End facing Taranto, so 201 GDs simply moves up Route 7 to Potenza.

Contest No. 66 winners who survived the inevitable luck of the draw were: P. O'Neil, Baltimore, MD; J. Platt, Pittsburgh, PA; L. Bucher, Charleston, SC; W. Inman, Tuscaloosa, AL; R. Reynolds, Houston, TX; J. Anderson, Buffalo Lakes, MN; F. Helfferich, Houston, TX; D. Downing, Albuquerque, NM; D. Sweeney, Jr., River Vale, NJ; and P. Flint, Montclair, NJ.

OPPONENTS WANT EL

Want to form wargamers club in Fort Worth. If interested call also need ftf for Blatz, Getts, 'Grad, Cville. Sid Acker, 3953 Wootley, Ft. Worth, TX 76133 (817)292-1232.

Panzer Lehr challenges all Pbm sit. 13 Pan. A.R.E.A. member rated C, wlbm pbn Pan and Luft for A.R.E.A. John Tiehen, 4041 Alicante, Ft. Worth, TX 76133 (817)292-2678.

Average player, 10 years old. Will play ftf 3R, Pan, Pan&Ld, 1776, Dd, Blitz, Tac, 1914, B5, RW, 'Cm& 3842. Any other in Houston, send Tim.

College aged novice wants pbm Pan. Prefer expert who needs to inflate ego. Roger L. Wright, 2701 W. Chicago, Nederland, TX 77627.

FR'40, Blitz, 'Grad, Chess, Pan. Pbm A.R.E.A. member Rating 1500. Larry White, P.O. Box 833, Pfingerville, TX 78660, 836-5012. Wanted 1tf player AK, BB, FR'40, Guad, Jut, Krieg, Luft, Mid, 1914. Will learn others. Have transportation. Mark Weseman, 752 E. San Simon, Bountiful, UT 84010, 292-1760.

If you are looking for a game of pbm Orig I can find you opponents. Gamemaster fee \$2.50. Also have openings in Diplo. Dennis Agosta, 900-L Foxridge, Blacksburg, VA 24060 (703)951-3340. Novice wants pbm opponents for Luft, Pan. No

Collegiate age player is seeking pbm opponents for PanLd. Prefers to play the German. A.R.E.A. players preferred. R. L. Richards, P.O. Box 433, Norton, VA 24273 (703) 679-4494.

3R, Wat. Walter D. Ashe, 5401 Greenbrook,
Portsmouth, VA 23703, 484-9112
Pfm, ftf opponents for BB, Blitz, DD, FR'40,
Gett, 1914, Orig, 1776, Grad, 3R, Wat. Any side,
age 21 experienced player William T. Warder,
604 Cavendish Dr., Virginia Beach, VA 23455,
497-2907.
Opponents wanted for: Pan-fff, Germans, 3R-fff,
Luft-pbm (don't own kit); RW-fff William War-

ner, 5694 Pin Oak Ct., Virginia Beach, VA 23462, 420-7439

I challenge anybody to play ftf 1776, RW, Pan. both ftf, and phm and other games I have and will play some games you have. Mike Christ, 14020 26th NE, Seattle, WA 98125, EM4-7072. Help? Is anyone out there? Need ftf opponents now! Pan ftf, RW, 1776, RR DID AK Mid

Interested in nfl opponents in Spokane area Only persons 20 and over please Any All or other wargame. Gary King, W 1924 Bth. Ave 1, Spokane, WA 99204, 747-5805.

Would really like some tff competition with anyone in Milwaukee area. Would like to join

group or club anywhere and try any game.
Learning wargaming. Dan Barton, 4781 N. 56,
Milwaukee, WI 53218, 461-6115.
Wanted pbm opponent for Luft (advanced), have
kit. Also 1914 (no kit). No experience with
1914, but fairly good at Luft. Michael Knautz,
144 Regis Rd., Saukville, Wisconsin 53080,
284-9097.
Need ftf competition badly. Have Blitz, soon Tac.

Gett Am interested in joining a club. Rodney Clark, Box 2132, Stettler, Alberta, Canada TOC2LO, 742-2180.

Novice is looking for high school age player to pbn Blitz. Also ftf Will buy half of pbn kit. Kris Anderson, 4849 Dogwood Dr., Delta, Prov. BC, Canada, V4M-1M3, 943-3652.

Adult gamer seeks pbn/ftf opponents for 3R, 1776, Anzio, 1914, PanLd and other boardgames.

Sonny Kwok, Dept. of Physics, UBC Vancouver, BC, Canada. 873-3061.
Pbm only. AK, BB, DD, Guad, Grad, Tac, Wat, WWII. I supply sheet, good for 14 turns. (no charge). A.R.E.A. "C" rating. Andy Webber, 20 Graydon Hall Dr., Apt. 204, Don Mills, Ontario, Canada.
13 year old novice player seeks opponent for AK. Ftf only. Soon to have RW. Prefer Germans. Any

clubs in area or in Canada. Tony Pagnan, 8 Lilac Pl., Guelph, Prov Ontario, Canada N1E-1K3. 822-9368.

Fbm Fan, Krieg. I have kits so must you. Also want info on Naval Miniatures. All letters answered. Matt Raswurm, Rivera Indarte 85, Acasuso, Buenos Aires, Argentina, South America. 743-4323.

Average adult player looking for ftf opponents in

areas 49, 50, 29, 53, 54, 31, 55, 56, 37 of the Sydney Gregory Paul Pawlak, 58 Pringle Ave. Bankstown, N.S.W Australia 2200, 700-787
I am an average player of 13, seek fit, have AK, Alex, BB, DD, Gett, Mid, Orig, Out, Pan, 3R, etc. All letters answered, send to: Greerson McCullen, 11 Rue St. Dominique, Paris, France 75007, 551-2302.

Bulge 1940

GERMAN ARMY

8 28 8-3	8 38 8-3	8 84 8-3	28 7 8-3	28 49 8-3	28 83 8-3	32 4 8-3	32 94 8-3	32 96 8-3	62 164 4-3	62 183 4-3	62 190 4-3	251 451 4-3	251 459 4-3
251 471 4-3	3 8 8-3	3 29 8-3	3 50 8-3	16 60 8-3	16 64 8-3	16 79 8-3	23 9 8-3	23 67 8-3	23 68 8-3	24 31 8-3	24 52 8-3	24 102 8-3	1P 1 16-5
1P 1 6-5	2P 2 16-5	2P 2 7-5	5P 8 13-5	5P 13 3-5	5P 14 3-5	7P 25 10-5	7P 6 4-5	7P 7 4-5	10P 69 14-5	10P 69 4-5	10P 86 4-5	10P 9d 9-5	1G 98 4-3
1G 99 4-3	1G 100 4-3	211 306 4-3	211 317 4-3	211 365 4-3	267 497 4-3	267 467 4-3	267 487 4-3	6P 11 11-5	6P 4 8-5	8P 8 8-5	2 5 8-5	2 25 8-5	5 14 8-3
5 56 8-3	5 75 8-3	21 3 8-3	21 24 8-3	21 45 8-3	87 173 4-3	87 185 4-3	87 187 4-3	13 93 8-5	13 66 8-5	29 15 8-5	29 71 8-5	25 13 8-3	25 35 8-3
25 119 8-3	263 463 4-3	263 483 4-3	263 485 4-3	9 36 8-3	9 57 8-3	9 116 8-3	12 27 8-3	12 48 8-3	12 89 8-3	27 40 8-3	27 63 8-3	27 91 8-3	8P 10 11-5

BELGIANS

2 3-3	2 3-3	2 3-3	8 3-3	8 3-3	8 3-3	2CA 1-3	2CA 1-3	2CA 1-3	1C 1-5	1C 21 1-5	1C 3cy 1-5	2C 11 1-5	2C 2cc 1-5
-------	-------	-------	-------	-------	-------	---------	---------	---------	--------	--------------	---------------	--------------	---------------

2C 4cy 1-5	20-O namur	1CA 1ca 1-5	1CA 2ca 1-5	1CA 3ca 1-5
---------------	------------	----------------	----------------	----------------

FRENCH

1 1-3	3s 1-3	1DLC 7-3	1DLC 5 1-5	5DLC 5 7-3	5DLC 15 1-5	102 42 1-0	102 52 1-0	102 148 10-3	1 147 1-0	10 11-3	2 9-3	2DLC 3 1-5	4DLC 14 1-5
61 248 4-3	61 265 4-3	61 337 4-3	2DLM bdc 12-5	2DLM bdd 4-5	2DLM 1 4-5	22 19 4-3	18 77 2-5	5 8 6-5	5 39 6-5	5 129 6-5	55 295 4-3	2DLC 2 7-3	4DLC 4 7-3
22 62 4-3	22 119 4-3	18 66 5-3	53 208 1-3	18 125 5-3	5NA 14z 2-5	55 213 6-3	4NA 25a 6-3	3DCR 7 6-4	3DCR 5 10-4	3 67 6-5	1DCR 1 7-4	1DCR 3 10-5	14 152 4-3
4NA 13z 6-3	4NA 23a 6-3	5NA 6m 8-3											

Surface Raiders

5	4	4	4	4	4	4	3	CV 2	CV 2	CV 2	CA 2	CA 2	CA 2	CA 2
CA 2	CA 2	CA 2	CA 2	CA 2	CA 2	20	15	10	9	8	7	6	5	4
3	2	1	1	4	2	1	20	10	9	8	7	6	5	4
3	2	1	4	5	CA 2	CA 2	CA 2	CA 2	CA 2	CV 2	4	5	5	5

READERS RESPONSE

BLITZKRIEG RULES

We are now taking orders for the revised second edition rules for *Blitzkrieg*. More than just a clarification and correction of old rules, the new rulebook makes an entirely new game out of this old favorite. Gone are the unrealistic and loophole-ridden air rules of the past. *Blitzkrieg* now boasts the most realistic set of air-to-ground combat rules in existence. No more static "Sitzkriegs" in the middle of the board—the blitz is really put back into *Blitzkrieg* under the new rules making he who hesitates truly lost. Renowned game player Dave Roberts used all his expertise and skill over the past year to perfect the rules for this old favorite and update it to today's high standards in game design.

Here's just a sampling of what the new rules offer:

- * A Basic Game every bit as challenging and playable as the old classics
- * Realistic stacking rules which really put the Blitz back in the Krieg
- * Two square range for Breakthrough artillery and special Barrage tables
- * Armor impervious to infantry ZOC
- * 15 turn game limit which ends the all night marathons
- * Strategic Movement
- * Greatly simplified and improved supply system
- * Hidden Movement Option
- * Best air combat system ever
- * Strategic bombing of crucial industries
- * Naval Ascendancy rules
- * Ambiguity free! (we hope)

We cannot recommend this official rules revision too highly. All current owners of the game owe it to themselves to update their sets and get some real enjoyment out of *Blitzkrieg*. You can update your game by ordering just the rules although we suggest you also order the new CRT card.

2nd Edition Rules of Play..... 1.25
Revised CRT card25

*Plus the usual shipping charges.

PBM EQUIPMENT

Tired of playing solitaire or humiliating the same opponent day after day? You may be good in *your* game room but what can you do against a good player from another part of the country? There's only one way to find out — play them by mail! PBM is an easy-to-learn and convenient-to-use system of playing fellow gamers across the nation. A special CRT and combat resolution system makes it impossible to cheat! PBM is an entirely different experience from face-to-face play. It has made better gamers of many who have tried it, and all those who have mastered it. PBM is the only way to participate in the many national tournaments held regularly for Avalon Hill games.

Each kit sells for \$4.50 postpaid and includes enough materials to play virtually dozens of games, including addendum sheets which list official grid-coordinates for those games not already possessing them and special charts and CRT's for postal play.

COLLECTORS MARKET

Wanted: Volume 9, No. 3, Volume 10, No., 4, only original copy please. \$2.50 each. First come first served. William Rom, 1953 Dwight Avenue, Camarillo, CA 93010

Want to buy Guad. or 1914. Best offer will be considered. Like better in good condition. PBM Wat. Have kit. I'm Napoleon. Yves Lagimonière, 1060 Ave. Effingham, Laval, Quebec, H7W4C2

Wanted: Vol. 10, No. 6, of the General with Guadalcanal pieces. Will pay good price and postage. Original only, no xerox please. Michael D. Madden, 644 Briar Rd., Wauconda, IL 60084, (312) 526-7090

Will trade xerox of mint Jutland for xerox of mint games or fair originals of out of print games. Need pbm/ftf for 16 games. Jeff Marshall, 804 Jackson Blvd., Bel Air, MD 21014, 879-1048

Must get Bismarck in good cond. for reasonable price. Bill Baumann, 6504 Devonshire, St. Louis, MO 63109, FI-2-6046

Wanted! Bism. for \$15. Also Vol. 10, No. 3 of General with Leyte Gulf pieces for \$3, original only. Ftf 3R, Pan, DD, Blitz, and Mid. Frank Kump 3321 Oxford Ave., St. Louis, MO 63143, 644-4951

Wanted: Vol. 10, No. 3 of General with Leyte Gulf pieces, 1914, Guad., Civil War, and original Anzio. Must be ex. cond. Joel Anderson, Box 54, Buffalo Lake, MN 55314, 612-833-2108

Will auction 1914, take highest bid over \$10.00 before Oct. 75. Wish to ftf or pbp any AH game, but cannot travel. Wish to buy Guad. David Caulton, 84 Deer Path, Princeton, NJ 08540, (609) 921-2726

Would like to trade complete "Civil War" for "Bismarck" in similar condition. All letters answered. John S. Malaska, Jr. 6A 2115 Aldrin Rd., Ocean, NJ 07712 (201) 542-2879

Want Guad. and 1914. Name price and condition. All letters answered. Si Coley, 905 Kenmore Rd., Chapel Hill, NC 27514 942-5821

Will trade excellent Blitz. and 3R for 1914. Mike Worcester, 633 Denison Ave., Elyria, OH 44035

Ftf AK, Blitz., Jut., Mid., Pan., RW., Grad., TAC., Chancellorsville. I am 13. Need Vol. 10, No. 3 of General with Leyte Gulf pieces. Good condition. Mac Weathers, Commerce St., Loretto, TN 38469 (615) 853-6481

Wanted: old Generals. Send price lists. Good quality reproductions acceptable. Must be complete. M.C. Rasmussen, 1616 Royal Crest, No. 203 Austin, TX 78741 441-7285

Want 1914 in good shape. Will pay a good price. Please contact. Also looking for ftf opponent for Wat., Gett., RW. Age of 13. Kipp Ryan, 1424 Pamela St., Hurst, TX 76053 282-1997

For Sale: 1961 Chancellorsville, mint condition except one bridge missing. Best offer. I will pay postage. All mail answered. Carl Hoffman, Box 3581, University, AL 35486 (219) 484-5319

Sale: Bismarck and Luft. hit record pads; 50 games for \$2.00. They are offset printed and are as good as originals. First come, first served. Steve Carey, 1323 Blossom, Glendale, CA 91201, 242-5268

For Sale: Anzio mint condition. Never used. Nothing missing. \$12.00 or trade Anzio for your 1914. Also good condition. Send offers or condition of game. Scott Petersen, 921 Crinella, Petaloma, CA 94952 762-0328

FOR SALE: B-marck, absolutely untouched components. Box in very good cond. Recently store bought. Will accept any bids over \$20.00. Hurry! Offer won't last long. Robert Ryder, 617 N. Richland Road, San Marcos, CA 92069 744-1221

Will game-master PBM Orig. \$2.00 for General subscribers, more for side wished. Selling or trading old Jut. SASE and 10¢ for info. No calls please. Steven Mizuno, 2326 W. 236 Pl., Torrance, CA 90501, 325-6568

Averg. gamer age 26 wants pbm for AK, LUFT, MID, RW, 1776, GRAD, or WAT. Will sell original JUT played once for \$15 including postage. L. R.

Parker, 22136 Ave. Morelos, Woodland Hills, CA 91364

For Sale: Guad, 1914, Jut, all in good to exc. condition. Best offers. All letters answered. Bob Karn, 95 Ferncliff Dr. W. Hartford, CT 06117 203-233-8936

For Sale: brand new 1914, best offer over \$15. Also trade Luft. for Alex. George Butler, 3915 Ferrarra St., Jacksonville, FL 32217, 733-3306

Wish to sell Jutland for \$11.25. No pieces missing in excellent condition. Also 1914 goes to highest bidder. Jim Stanger, 432 Root St., Park Ridge, IL 60068 692-3241

For Sale: Bismarck (very good cond., \$20). Hex Gett. (Fair cond., all units, \$25), old Jut (store cond., \$15) David Bottger, 149 W. Catalpa Dr., Mishawaka, IN 46544 (219) 255-1860

Wargamer turn Pacifist. All wargames must go, including Anzio, 1st edition \$7.00. Original Jutland \$7.00, 1914 \$7.00. Philip Haase, 4302 Fountainbleau Dr. New Orleans, LA 70125 (504) 866-2460

Will sell or trade U-Boat. No unused pads. Will also PBM Pan, B-krieg, BB, AK, 3R. Your kits for last three. Am 13 years old. Also seeking ftf opponents. Pete Adkison, 715 Hickery, Newllano, LA 71461 318-238-0922

For Sale: General-back issues. I have 17 different issues which are out of print. \$2.00 each. Send for list or make inquiries or offers. Michael Keller, 1702 Meadow Court, Baltimore, MD 21207, 265-6374

For Sale: orig. Jut., mint condition \$12 ppd. Barry H. Jacobs, 717 Centre St., Newton, MA 02158

For Sale: Guad. original Jut. \$12 each. Good condition. Extra score sheets in each. Enclose 10¢ stamp with order for return if games already sold. Thomas Slazas, 14520 Flanders, Detroit, MI 48205 526-3422

Mint cond. 1914, counters still unpunched \$16.50. Leonard Hourvitz, 1170 Briarcliffe, Flint, MI 48504 732-7801

For Sale: Mint U-Boat \$18.00, old BBst \$6.00, old Jutl. \$13.00, old Anzio \$12.00, Guad. \$15.00, mint 1914 \$15.00. All excellent to mint. Jeff Ogger, 1183 Woodnoll Dr., Flint, MI 48507 (313) 738-2752

For Sale: 1914 \$15.00 in very good condition. Dave Koslosky, 26958 Havelock Dr., Dearborn Hts. MI 48127 (313) 278-2913

For Sale: Guad., Jut. (old) both store cond. \$15.00 each. Am willing also to trade, send trade if have one. Brad Boland, 413 Madison, G.P. MI 48236 886-8138

For Sale: 2 Guad. games in brand new (never used) condition \$20 each. Also Jut. in excellent condition \$12.00. Keith Vine, 523 Austin Ave., Barrington, N.J. 08007 547-2979

For Sale: 1914 and Guad. Both in good condition. Want \$17.00 each. I will pay postage. Also interested in a trade for Civil War. Harley M. Fletcher, CSC3/64 ARMOR, APO NY 09702

For Sale: Guad., B-Marck. Guad. in excellent condition. B-Marck in average. Guad. \$16 & up. B-Marck \$15 and up. I pay postage. Butch Schorzman, 537 SE 14th-D, Hillsboro, OR 97123 648-9378

For Sale: Bismarck; Dispatcher, Guad. C&O/B&O, orig. Jut. Want: Lemans, Air Empire, Civil War. SASE for details. Dennis Fitzgerald, 8319 Loretto Ave., Phila. PA 19152

For Sale: 1914, send bids starting at \$10.00. Highest by 9/20 gets. Game is in good condition. Jon Thatcher, 1012 Battery Ln. Nashville, TN 37220 298-3747

For Sale: out of print issues Vol. 10, nos. 1 & 6 of the "General." Also would like ftf for most AH games. Kevin Rushforth, 1152 Sherwood Drive, Kaysville, UT 84037 (801) 766-0036

For Sale: original Anzio, \$10; 1914, Guad, Bismarck (minus rules folder) \$15 each. All in excellent condition, you pay postage. Rick Kurtz, 315 Robert Ave., Richland, WA. 99352 945-0988

READER BUYER'S GUIDE

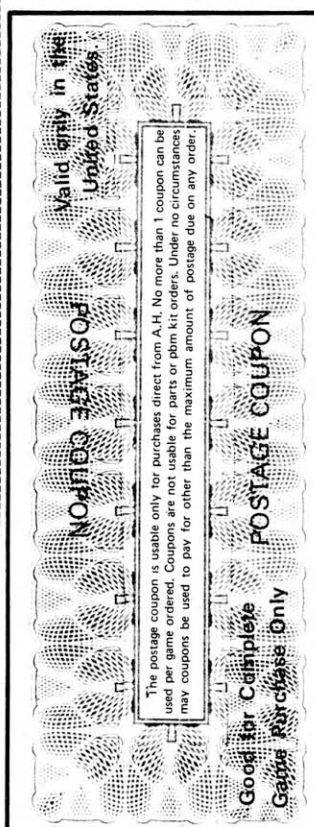
TITLE: ANZIO \$8.00
Div, Reg't, Bde, and Bn level game of the Italian Campaign '43-45

INSTRUCTIONS: Rate all categories by placing a number ranging from 1 through 9 in the appropriate spaces to the right (1 equating excellent; 5-average; and 9-terrible). **EXCEPTION:** Rate item No. 10 in terms of minutes necessary to play game as recorded in 10-minute increments. **EXAMPLE:** If you've found that it takes two and a half hours to play FRANCE 1940, you would give it a GAME LENGTH rating of "15." Participate in these reviews only if you are familiar with the game in question.

1. Physical Quality _____
2. Mapboard _____
3. Components _____
4. Ease of Understanding _____
5. Completeness of Rules _____
6. Play Balance _____
7. Realism _____
8. Excitement Level _____
9. Overall Value _____
10. Game Length _____

The review sheet may be cut out, photocopied, or merely drawn on a separate sheet of paper. Mail it to our 4517 Harford Road address with your contest entry or opponents wanted ad. Mark such correspondence to the attention of the R & D Department.

Game to be reviewed next: _____



DISCONTINUED GAME PARTS

BISMARCK (ORIG.'63)

Rules	1.00
Historical Notes Card .....	.75
Set of 4 Zone Cards .....	.50
Search Board Screen .....	.75

CIVIL WAR (ORIG. '61)

Time Record Card .....	.50
Rules/Manual Set	1.50

DISPATCHER (ORIG. '58)

Manual with Rules	1.00
Set of 5 Timetables	1.50

GUADALCANAL (ORIG. '66)

Box	3.00
Counters	1.50
Rules/Manual Set	1.50
Set of 2 O/A cards	1.00
Time Record Card .....	.50
Casualty Tables Card .....	.50

SHIPPING**a) If you live in USA,**

Up to \$1.00, add .....	.25
from \$1.01 to \$3.00, add .....	.50
from \$3.01 to \$5.00, add .....	.75
from \$5.01 to \$7.00, add .....	.90
from \$7.01 to \$10.00, add	1.00
from \$10.01 to \$15.00, add	1.25
\$15.01 and up, add	1.40

b) If you live in Canada or Mexico, double the USA amounts. Payment must be made in US funds, drawn on a US bank.

c) If you live overseas, triple the USA amounts (overages are refunded). Payment must be made in US funds drawn on a US bank.

d) For APO and FPO addresses, add the USA amounts and check here ☐ for SAM (Space Available Mail); or add USA amounts plus \$1.00 and check here ☐ for PAL (Parcel Air Lift).

e) THE GENERAL; USA subs. postage FREE; Canada, Mexico add \$3.00; Overseas add \$5.50. Consult (a,b,c,d) for Back-issue postage.

LE MANS (ORIG. '61)

Rules	1.00
Pads	1.00
Set of 2 Blue Spec. Crds. (Lmt'd.)	1.00
Set of 12 Wet Corner Markers .....	.50

MANAGEMENT (ORIG. '59)

Rules	1.00
Counters	1.50

U-BOAT (ORIG. '58)

Counters	1.00
Rules	1.00
Set of 2 Range Cards .....	.75
Attack Results Table Card .....	.50

1914 (ORIG. '68)

Box	3.00
Board	4.00
Ger. Counters	1.50
Rules/Manual Set	1.50
Introductory Game Card .....	.50

Opponent Wanted

1. Want-ads will be accepted only when printed on this form.
2. For Sale, Trade, or Wanted-to-Buy ads will be accepted only when they are dealing with collector's items (games no longer available from AH) and are accompanied by a token 25c fee.
3. Insert copy where provided on lines provided and print name, address, and phone number where provided.
4. Neatness counts; if illegible your ad will not be accepted.
5. Ads will be accepted only on forms from the preceding issue except in those cases where no Opponents-Wanted form appeared in the preceding issue.
6. So that as many ads can be printed as possible within our limited space, we request you use the following abbreviations in wording your ad. Likewise with State abbreviations.
 Afrika Korps = AK; Alexander the Great = Alex; Anzio; Baseball Strategy = BB St; Battle of the Bulge = BB; Basketball Strategy = BK St; Blitz; D-Day = DD; Football Strategy = FT St; France, 1940 = FR'40; Face-to-Face = FTF; Gettysburg = Gett; Guadalcanal = Guad; Jutland = JUT; Kriegspiel = Krieg; Luftwaffe = Luft; Midway = Mid; 1914; Origins of WWII = ORIG; Outdoor Survival = Out; Panzerblitz = PAN; Panzer Leader = Pan Ld; Play-by-Mail = PBM; Play-by-Phone = PBP; Richthofen's War = RW; 1776; Stalingrad = 'Grad; Tactics II = TAC; Third Reich = 3R; Waterloo = Wat.

Name _____

Address _____ City _____

State _____ Zip _____ Phone _____

CONTEST NO. 67

For those who complain about "the inevitable luck of the draw" we offer a contest that should prove difficult enough to guarantee that there aren't enough winners to warrant a drawing.

This contest tests your ability to break a code. The Roman numeral in parentheses refers to an Avalon Hill game now in print (not all wargames); the Roman numeral is followed by grid coordinates which designate an area within which is a word, a letter, or letters. In the code, words are separated by commas. When you have figured it all out, you will have four precepts of wargaming. Since the encoder was working with limited resources, he has taken some liberties with the language. The meaning should be clear, however.

Precept A:

(I) 15-16, (II) CC-28, (III) 11-11, (IV) V-60, (II) F-13, (III) 17-8, (V) A-3, (VI) B-14 (VII) AA-44.

Precept B:

(I) 25-19, (VIII) II-34 (VII) T-15, (VIII) BB-14, (III) 27-20 27-21 27-22, (III) 23-21 (VIII) UU-26 (VII) AA-42, (IX) RR-31, (I) 11-8 (VII) U-14 (II) L-6 (X) MM-18, (II) S-32, (XI) G-5, (I) 21-39 20-39 (X) F-23.

Precept C:

(IV) M-62, (XII) B-16, (II) II-42 (VIII) WW-6, (VI) X-50, (II) RR-25, (VI) N-49, (III) 6-18, (VII) S-29, (V) D-2 (X) V-15, (VII) DD-32 (II) S-15, (VI) C-69, (VI) B-25 (II) S-15, (II) L-18, (IX) BB-29, (X) H-38 (II) 43-45, (VIII) VV, UU-22 (V) A-2 (VIII) CC-22 (I) 2-8, (X) MM-20 E-45 (III) 25-8, (V) A-7 (II) T-32 (IV) W-46 U-69 (II) 00-41.

Precept D:

(IV) W-20 (V) B-3 (VI) V-46 (II) S-27, (II) L-16, (X) D-25 (V) C-5 (II) CC-40, (IX) I-9, (VI) D-58, 59 E-58, (IV) W-46 (XII) D-7, (IX) MM-28.

—(IV) K-32, (IV) V-57 W-70 I-63 U-59

ISSUE AS A WHOLE: (Rate from 1 to 10; with 1 equating excellent, 10= terrible)

Best 3 Articles:

1 _____ NAME _____
 2 _____ ADDRESS _____
 3 _____ CITY _____ STATE _____ ZIP _____